A Clinical Lecture

ON THE

NEUROTIC ELEMENT IN DISEASE.

DELIVERED AT THE LONDON SCHOOL OF CLINICAL MEDICINE.

BY

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SINCE the time when Adam and Eve were banished from the Garden of Eden mankind has been familiar with disease; but as the race has progressed from one stage of development to another, civilized humanity has gradually been learning how to mould its habits of life so as to rob sickness of many of its terrors, and subdue it to the influence of laws by which it is ever becoming more completely and effectively controlled.

In furtherance of this aspiration for betterment, scientific hygiene is constantly recording fresh triumphs. Some diseases, such as typhus fever, small-pox, scurvy, and Malta fever, are thoroughly under the control of preventive measures; while others, such as diphtheria, enteric fever, tuberculosis, and scarlet fever, though not yet so completely governed, are capable of being limited in the extent of their distribution and modified in the severity of their manifestations. These disorders belong, it is true, to the specific or communicable class of disease which preventive medicine most readily combats, but in other varieties of sickness no less remarkable progress has been made in the direction of amelioration.

Syphilis, in spite of all its dreadful possibilities, is amenable, if properly managed, to the influence of mercury, the iodides, and apparently also to the more recently discovered arylarsonates; myxoedema can be cured by thyroid gland extract; malaria sacrifices its protozoal parasites at the shrine of quinine; chlorosis vanishes under the revivifying influence of iron and arsenic; and the present investigations into the nature of cancer may be trusted to devise, in the near future, methods of prevention and treatment by which that widespread scourge will be held in check.

In the field of surgery the advances of scientific discovery and the improvement of technique have been no less remarkable than in medicine, with the result that many disorders which were formerly regarded as hopelessly incurable are now brought within the scope of successful treatment.

But while great gains have been achieved in the conflict against organic and specific disease, the record is by no means so satisfactory when we come to investigate the vast field of functional disorders with which we are brought in constant contact. It may be safely asserted that our knowledge of functional disease is still of the most limited description, and yet it must be confessed that functional symptoms are rapidly acquiring increased pre-eminence in every variety of illness. Those who come after us will certainly find, with more accurate and penetrating methods of research, minute organic changes to adequately explain many manifestations which, in our ignorance to-day, we label functional.

This neurotic tendency is becoming so general, that not only are the ordinary organic and specific disorders influenced by its complicating coexistence, but it has also come to establish for itself a symptom-complex known under the name of "neurasthenia," which though possessed of such distinctive characteristics that it can be scheduled as a disease-entity, is yet, so far, unaccompanied by any organic changes by which a *post-mortem* explanation is yielded. All we are able to say is that the seat of disorder is situated somewhere in the nervous system, and that the manifestations of a condition with which we are becoming more and more familiar, are obviously dependent upon disturbance of the great nerve supply by which the activity of the bodily functions is controlled and the stability of the mind itself provided for.

It has been asserted that the main cause of this great change which is taking place in nerve resistance to the powers of evil is the more rapid pace at which the world moves, and the consequent increased strain which daily life and duty imposes upon each individual's reserve of energy. That, in addition to these necessary calls upon our vitality, we are becoming too luxurious, and are striving to enter the kingdom of Heaven by the preaching and practice of a gospel of comfort rather than by the older doctrine of self-denial and hard work.

Whatever the true explanation be, it is certain that we, as physicians, are coming to recognize that the old order of things in disease is rapidly changing, and that, in our management of the sick, new conditions are creeping in which are tending to modify the course of many organic ailments, and are compelling us to direct our methods of treatment so as to counteract their hindering influence upon the natural progress of this, that, or the other disorder.

Many diseases, indeed, are so different now from what they used to be that we believe them to be undergoing a change in type. This is not surprising when we consider how mankind is gradually being altered by the influence of circumstances and surroundings, and we begin to appreciate that the greatest change both in man and his ailments is dependent upon a progressive development of nervous instability. It may be objected that the perception of an increasing nervous element in disease depends in great measure on the preconception or bias of the observer, and to some extent this may be true.

But the observation of this growing neurotic influence is no longer that of a few physicians only; it has become the admitted experience of most men who are engaged in active work; so that such criticism may be regarded as applicable in only a comparatively small number of instances.

It is not my intention to direct your attention this afternoon to those neurasthenic conditions which may be said to be entirely central. The manifestations by which ordinary neurasthenia declares itself are familiar to most of us, but I may be allowed to recount the following epitome of its multifarious symptoms, in order to emphasize the fact that the only satisfactory explanation of such a complex picture is to regard it as the outcome of a central or constitutional upset: A constant sense of weariedness and inability for sustained mental or physical exertion; impairment of digestion; disturbed sleep; restlessness and irritability; occipital or vertical headaches; vasomotor instability; feebleness of volition, loss of memory, and mental depression; and absence of physical signs, indicative of organic disease. What I desire more especially to consider with you to-day is the effect of a generalized neurasthenia or of the neurotic habit upon the progress of ordinary illnesses. And, in the first place, may I say that in my experience the distinctively neurasthenic type of person does not come out of surgical operations well. An operation is got through as in average cases, but no sooner is all anxiety as to recovery over than the neurotic element asserts itself more strongly than before, and ultimate convalescence is delayed—sometimes indefinitely. Here is a case illustrative of my meaning, and it is one of many I could mention:

A married lady, aged about 48, who belonged to a family of a highly neurotic type and who had herself suffered for several years from anaemia and neurasthenia, developed indefinite discomfort in the region of her appendix. This discomfort increased until it became actual pain, but was never accompanied by pyrexia or any evidence of active inflammatory mischief. In the right iliac fossa a sausage-shaped tumour could be felt, which varied in size from time to time, and was situated in the midst of a resistant elastic mass. She very much dreaded operation, but she was advised that without removal of the appendix she need not expect any relief to her sufferings. In due course the appendix, which was found glued to the caecum, was removed, but recovery was so slow that the patient was unfit to return home for two months. Her nervous system became completely unhinged; she slept badly, could neither take nor digest food except in the smallest quantities, was constantly depressed, became exceedingly thin, suffered from constant headaches, and was altogether distinctly worse in her general condition of health, and especially in the state of her nervous system, than she had been before the operation. After her return home she did not recover, but for the following seven months was a confirmed invalid; even the pain for which her operation had been principally undertaken returned as badly as before.

I do not suggest that an operation was unjustified; I merely relate the case as one of a type in which surgical

interference is not well tolerated, and in which due consideration ought to be given to the general health as well as to the local condition before surgical methods of treatment are employed. If an operation is imperatively demanded to save life, all the consequences which may ensue must be risked; but there are many instances where the urgency is not great, and in some of them sufficient allowance is not made for the neurotic element which sometimes renders the diagnosis a little uncertain, and always impresses upon the physician the likelihood that complete recovery will be slow. The wound may heal as well and as speedily as in the case of other patients, but the nervous system does not rebound well from the shock of operation, and for a longer or shorter time—and much longer than most surgeons will admit—remains difficult of control and rebellious to restorative treatment.

It would be obviously impossible in the course of one short lecture to enumerate every disease the usual photograph of which may be blurred by the interpolation of neurotic lights and shadows. I desire only to refer to the subject in broad outline, in the hope that I may succeed in stimulating your interest sufficiently to make you investigate your cases with minds alert to the frequency with which the nerve element may not only modify the picture but even transmogrify it almost beyond recognition.

Let us, in the first place, glance for a moment at the diseases of the brain and nervous system generally. I need scarcely remind you that the various paraesthesiae of functional disturbance are liable to cause in the neurasthenic mind the most grave dread of organic disease. Especially do neurasthenic patients readily fall into the fear of an imminent paralysis or apoplexy.

As an instance, I may quote a lady of 64 years of age who has come to see me from time to time over many years, and always with the same tale of numbness in her fingers and toes, a sense of formication down her right side, occasional headache and vertigo, and a record of failing memory and intellectual confusion. She is of a gouty habit of body, has considerable tension in her circulation, thickened vessels, and ineffective action of the bowels with a consequent liability to recurrent conditions of faecal accumulation in her colon. Up to the present she has always been restored to comfort and confidence by remedies directed to the proper evacuation of her bowels and the reduction of her arterial tension.

The neurotic predisposition of the patient is awakened into activity by an autointoxication from her intestine, and so soon as the primae viae are thoroughly cleared her normal equanimity is restored. But the manifestations, which so far have been functional only, point the way clearly to hidden rocks of organic danger ahead, and lend value to symptoms which, though not at present synonymous with the paralysis which she dreads, foreshadow to the professional mind a possible future verification of her fears.

Another patient—this time a full-blooded, freely-living man of 50 years of age, whose family has been gouty through many generations and several of whose ancestors have succumbed to apoplexy—comes to me periodically in terrible anxiety that he is on the verge of falling a victim to what he calls "the family scourge." He is a highly strung man and knows just enough about the signs of apoplexy to have his fears aroused by every headache that befalls him. So far, his headaches have all been of the occipital neurasthenic type and have been accompanied by such unmistakable confirmatory evidence of a passing nervous tension that one has been able to reassure him and to get his health re-established by suitable dietetic and medicinal correctives. But, again, the presence of high arterial pressure, a low specific gravity of the urine, occasional vertigo, and a sluggish portal circulation cast the shadow of organic illness across these chapters of functional disturbance in his life-history, and the problem recurs with increasing insistence whether the functional storms of his present period of life are not the heralds of a coming organic tempest that will some day add another victim to the roll of his family record.

The occurrence of "fits" is an incident in the history of many illnesses which gives rise often to difficulties in diagnosis and in differentiation between a functional and an organic foundation. Two cases of a widely different type, which were sent to me on account of what were described as "fainting attacks," are instructive in this connexion.

One of them, a young lady of 23 years of age, was of neurotic type, and was a descendant of a family through many generations of which there could be traced a strain of nervous instability. The girl, though shy and retiring in manner, was healthy-looking and without any definite organic fault. Her health had been quite good until about a year before her first visit to me, when she began to complain of lassitude, disturbed sleep at night, failing appetite, vertical headaches, vertigo, constipation, and fainting attacks. These attacks were said to be accompanied by temporary loss of consciousness, by pallor, palpitation, and dyspnoea, and were always followed by headache, but she had never bitten her tongue, never been convulsed, never passed water involuntarily, and never hurt herself in falling. The story did not suggest epilepsy, and her heart was normal. At first sight it seemed as though the "fainting fits" were either purely neurotic or merely a consequence of some passing gastric disturbance. But on closer investigation she was found to have a slight degree of intention tremor, a certain amount of nystagmus on extreme deviation of the eyeballs in the lateral direction, exaggerated knee-jerks, and a suspicious pallor of the temporal half of her right optic disc—all symptoms very slight in themselves, but when taken in conjunction with the girl's age, with her heredity, with an apparently idiopathic development, and with a certain degree of mental hebetude to which she had been previously a stranger, enough to raise in one's mind the question whether we were faced with something more than a mere functional disturbance of health—whether, in fact, we were not dealing with a disseminated sclerosis in the earliest stages of its development. The present condition of this patient, after a few weeks' treatment, is one of marked improvement, but the fact must not be lost sight of that no disease of the nervous system is so strikingly marked by remission of symptoms as disseminated sclerosis. In such a case, therefore, judgement should be suspended and no definite diagnosis ventured upon until a sufficient lapse of time enables us to conclude definitely that the threatening indications have been part only of an entirely functional condition, and have not been the early expression of tissue changes which will, later on, declare themselves the indisputable evidences of incurable organic disease.

The other patient was a man of 51 years of age, a soldier who had served his country in many parts of the world, and had never been seriously ill until about a year ago, when he suddenly fell down in what was believed to be a "fainting fit." Since the first attack he had experienced many similar seizures, and recently they had become so frequent as to cause him and his family serious alarm. He had also developed a tendency to headaches and to vertiginous attacks, and he was concerned to observe that his memory was rapidly failing him. He had been active all his life, had indulged freely in tobacco and alcohol, but denied ever having suffered from syphilis. Though distinctly neurasthenic, he had no evidence of established organic disease, but his vessels were atheromatous, his heart was somewhat hypertrophied, and there was a ringing second sound at his aortic cartilage. His urine was of low density, and contained the faintest haze of albumen. His attacks were, from the description, doubtfully convulsive, but he was said to lose consciousness, to become during them very flushed in the face, and always on recovery was intellectually confused, abnormally somnolent, and painfully emotional. He had never injured himself during his attacks, his discs were normal, and there was no evidence of muscular paresis or paralysis. On closer examination of his nervous system his pupils, though active, were sluggish; there was a suspicion of slurring in his articulation of certain words, and his tongue betrayed a slight fibrillary tremor. What was the nature of these attacks? The description of them, and the fact that they first declared themselves after middle life, made it unlikely that they were wholly functional, though his obvious neurotic tendencies suggested that explanation, and doubtless accounted for many of his symptoms. Further, the onset of idiopathic epilepsy is unusual so late in life, and if the attacks were even partially epileptiform, there must be some early organic change to account for them. The minor symptoms which this patient presented warranted, I think, the suspicion that on a functional basis there was being developed an organic superstructure, the true nature of which was probably general paralysis. Time will declare whether such a suspicion is well founded, but at its present state of development this case is one which again conveys the lesson of the need for suspension of judgement until sufficient opportunity is afforded for definitely concluding whether the neurotic element constitutes the whole story or part of it only.

If we next turn our attention for a moment to the circulatory and respiratory systems as we find them involved in diseases of the thoracic organs, we will discover equally striking examples of the pitfalls which beset the diagnostic path. And, in passing, let me say how misleading to the public a medical opinion, especially in respiratory or circulatory disorders, often is. Misleading because the doctor, either to safeguard his reputation or to shield imperfect knowledge, frightens the wits out of a nervous patient by declaring that he is suffering from weak lungs or from a feeble heart. Such a verdict means to the patient and his relatives a conviction of consumption in the one case, and the likelihood of sudden death in the other, and is generally given in cases where cough has been a persistent and troublesome symptom, or where what are described as fainting attacks have been to the patient or his friends alarmingly suspicious of heart disease.

Some years ago I saw a gentleman of 38 years of age who for a long time had been troubled with a cough which varied in degree and sometimes disappeared for weeks at a time, but always returned without any apparent reason to account for it. He had suffered much from many physicians, and had been seriously perturbed by being told in the early history of this cough that his lungs were feeble, though perhaps not actually diseased. He had taken drugs *ad nauseam*, had been sent to winter abroad, and had also undertaken a voyage to New Zealand to rid himself of his enemy. When I first saw him I was unable to find any evidence of active disease in either lung, though I thought there was some suspicion of rough breathing in the right upper lobe. The physical signs, however, were much too slight and indefinite to account for a cough of such long duration, and the patient, despite his long experience of "weak lungs," was well nourished and able for quite an average amount of professional work and physical exertion. He was a highly nervous man, by profession a solicitor, and was living in constant dread of tuberculosis. He indulged extensively in cigarettes, and his fauces showed clear evidence of the irritating effects of tobacco-smoke inhalation. To relieve the annoyance of his cough he was in the habit of taking glycerine, and it had become his habit to keep in his dressing room a bottle of this harmless substance for use when required. One night, shortly after retiring to rest, the cough became, as it often did, worrying, and he resorted as usual to his placebo; but, being unable to find a light, he groped his way in the dark to where he was accustomed to find his glycerine bottle, and hurriedly took a mouthful of what turned out to be Scrubb's ammonia. Fortunately he discovered his mistake before he had swallowed much of the irritating liquid; but, in acute alarm at his mistake, he sent for the nearest doctor, who found that, though very little of the ammonia had reached his stomach, sufficient had been taken into the buccal cavity to shrink up much of the mucous membrane of his mouth, tongue, and fauces. No serious damage had been done, and, after a few days' discomfort, he recovered completely. But the most satisfactory outcome of his carelessness was that thenceforth the cough, which had been for so long the enemy of his happiness and peace of mind, entirely disappeared, and he remains to-day a healthy and active member of society, with all the old dread of consumption no more than a memory of the evil influence which a careless diagnosis of "weak lungs" had exerted upon a sensitive and overstrung nervous system.

As an example of the disastrous effect of a loose diagnosis of "weak heart," may I also relate to you a case which is still under my observation?

The patient is a young, anaemic, neurotic woman of 21. She is said to have suffered from fainting fits for about two years, and her parents had been warned that these attacks were due to heart feebleness, that they were not without danger, and that she had a murmur. On close inquiry it was ascertained that, though she experienced feelings of faintness from to time, she never entirely lost consciousness. The heart was excitable, its rhythm was slightly irregular, and a soft systolic bruit could be heard at the apex and over the pulmonic area, but the cardiac diameters were normal, and, after a little reassurance, the rapidity of the heart diminished, and the irregularity of its action entirely disappeared. It was obvious that the girl was not suffering from any organic lesion of her heart, but what her condition more strongly suggested was the possibility of *petit mal* as the explanation of her attacks. Under the influence of iron and arsenic, together with the restoration of her digestive activity, however, the faint feelings have disappeared, and the patient is now robust and well. Her own fears, as well as those of her parents, have been allayed, and the bogey of heart disease has been restored to the oblivion from which there never was any good reason for calling it forth.

Cases such as these are eloquently graphic of the evil which constantly ensues from faulty observation and enigmatic diagnosis. Actual disease of the lungs in the one case, or of the heart in the other, was not asserted, but in each instance the faulty judgement of a neurotic patient was encouraged to accept a needlessly apprehensive conclusion from the suggestive terms in which a halting and covering opinion was expressed.

But there are other thoracic disorders of greater importance than these, in which it is essential to carefully weigh the value of the neurotic element. The most distressing ailments in which we often find a jumble of organic and functional disturbance are angina pectoris in the circulatory system and asthma in the respiratory system. As you know, there are two forms of angina pectoris described—one dependent upon degenerative faults in the myocardium, increased arterial tension, atheromatous changes in the coronary and other vessels, kidney disease, and so on, which is attended by an ever-present possibility of sudden death; and another associated with vasomotor instability and neurotic accompaniments, which is regarded as unimportant and for the most part amenable to treatment by valerianates and discipline.

And there is yet another class, undescribed in textbooks, with which we are only too familiar, in which examination fails to reveal any adequate organic cause for the attacks complained of, but in which, none the less, something in the description which is given us, or something indefinite about the patient's general condition, warns our clinical instinct that there is a kernel of danger lying somewhere obscure in the recesses of the neurotic temperament which makes the prognosis uncertain. Here is such a case which I saw only a few weeks ago:

A lady of 64 years of age complained that within the past three or four months she had been frequently disturbed by unaccountable attacks of short and distressed breathing, accompanied by a sense of constriction in the chest and of tingling down both arms, but especially the left. The attacks occurred mostly in the early hours of the night, but she had also experienced several during the day after some form or other of unusual effort. She was a typically neurotic woman, and belonged to a family many members of which had suffered from nervous and mental disease. She was well nourished, bright, and active, had gouty proclivities, but presented no physical signs of organic disease other than a certain degree of thickening of her vessels and an accentuated second aortic sound. The arterial changes were not more pronounced than what is common to her time of life, and, except for the method of their onset, the description of the attacks from which she suffered was so suggestive of a neurosis that one was tempted to regard the condition as wholly functional. Not long ago this lady, after incautiously going upstairs hurriedly, was suddenly seized with acute pain in her chest which shot down her left arm and up the left side of her neck; this was accompanied by inability to move a step from where she stood, by panting respiration, and by a terrifying apprehension of immediate death. The attack fortunately did not prove fatal, but the description was too vivid to admit of any doubt as to its nature, and when I saw the lady shortly afterwards I found the heart dilated and in such a condition of irregular commotion that it seemed more than doubtful whether it could ever quiet down. She is now better, but I have learnt, not for the first time, how unsafe it is to speak too confidently about anginal attacks as being unconditionally functional.

Yet another case, more difficult to estimate and more painful in its *dénouement*:

A lady of 48, who was in the midst of her menopause, developed anginal attacks, which seemed, from a consideration of all the circumstances, to fully justify a diagnosis of functional disturbance and a prognosis of complete recovery later on. One day I was summoned to see her, and on my arrival at her house was told that while walking in the park she suddenly experienced a worse attack than usual, and was compelled to take a cab home. The pain gradually subsided after her return, and she lunched with the other members of her family, though not feeling quite comfortable. After luncheon she retired to her room, where I found her on the sofa, apparently better. Her pulse was rapid but regular, and she was flushed and restless. I was just about to leave her when she suddenly complained of a return of the pain; simultaneously her face became deeply cyanosed, and, before there was time to do anything for her relief, she was dead. I had examined this patient frequently, and she had also been seen by other physicians, but we were all betrayed into a wrong opinion. Leave was given to examine the heart after death, and the explanation of the tragedy—because it was nothing less—was found to be an abnormally small right coronary artery, obviously a congenital fault, which had remained mute throughout all the more active years of life, but was unable to cope with the added stress of functional disturbance coincident with the change of life.

The danger of regarding functional cases too seriously must, however, also be guarded against, and nothing can ever justify a gloomily expressed prognosis, unless under circumstances where the diagnosis is so certain that it is, for safety's sake, imperative to ring the danger bell. To frighten a neurotic patient with a verdict implying sudden fatal possibilities is tantamount to condemnation to a life of perpetual mental dread and unbroken invalidism.

I have intimate knowledge of such a case in a relative of my own.

She was a lady of 58 years of age who had always been delicate, was of the neurotic type, had passed through an anxious and disturbed life, and had comparatively recently come to the end of her menstrual periods. She developed cardiac attacks such as we are now considering, and was kindly, but unwisely, told by her doctor that in one of them she would almost surely die. For close upon three years that lady lay in bed afraid almost to breathe. Periodically she experienced an attack of praecordial discomfort, and on every occasion the members of her family were speedily summoned to see her die. Her life was a living death to her, and to the members of her family her illness was a ghastly nightmare which haunted them unceasingly. Ultimately a course of treatment was suggested which had the effect of improving

a digestion which had been impaired over many years; a spirit of hopefulness was breathed by a wise and optimistic physician into this poor lady's mind, and she eventually recovered, and lived for many years without any return of the heart attacks which an unjustified opinion had led her to regard as her summons to death.

I have lingered over these cardiac conditions at too great length, but it is in the field of heart disease more than any other that the neurotic question becomes, both for the physician and his patient, one of such superlative importance. There is no certain means by which we can be infallibly guided, and, with all the care we can take, the best of us must make mistakes, but my personal experience justifies me in believing that along the pathway of a cheerful prognosis lies the doctrine of comfort for those who, on account of their temperament, are liable to construe out of a hedging opinion the confirmation of their worst fears. I go further, because I believe that, even in the presence of serious organic disease and with the knowledge that a heart is wearing thin, we lighten the remaining days or years of our patient's life, and add to his courage and happiness by keeping alive within him the spirit of hopefulness.

As regards asthma, which may be regarded as the greatest of all the respiratory bugbears of neurotic patients, time will not allow me to do more than glance at it. Asthma may occur under many circumstances, and is frequently secondary to some other disease; but true spasmodic asthma is still a disorder for which no definite organic cause has been found, and it is one which afflicts chiefly those who have inherited or begotten the neurotic temperament. We do not see much of it in our hospital wards, because it is most common among the upper and middle classes of society, where neuroses of one type and another abound. It is, when once contracted, one of the most intractable of all maladies. It does not end fatally, but exhibits a recurrent persistence which makes the sufferer's life miserable and drives him to one doctor after another, then to one quack remedy after another, until he becomes an unbeliever in rational treatment and the slave of "cures." But while all this is true, the point about asthma which in connexion with our subject to-day must not be overlooked is that its manifestations must not tempt us to carelessness. The following case aptly illustrates what may happen

A man of middle life, who had suffered from ordinary spasmodic asthma since boyhood, came to me after an interval of many years and told me that he had become so tired of the ineffectual attempts of innumerable doctors to cure his trouble that, after consulting many in different parts of the world since I had last seen him, he had, for several years past, trusted to patented medicines of one kind or another. He had also tried almost every climate on the face of the earth, but was unable to assure himself that his attacks were either fewer or less severe in one place more than another. The reason for his present visit to me was that, being accidentally in town, he had been, two nights previously, attacked by an unusually severe seizure, and he thought the excuse a good one for renewing an old acquaintanceship. I remembered him perfectly, and saw but little change in his physical condition. From the long continuance of his asthma his lungs had become emphysematous and obscured the physical state of his heart, but there were no murmurs or other abnormalities so far as could be heard through the noise of his breathing. He assured me that, but for his old asthmatic enemy, he was perfectly well. Fortunately for me, a passing complaint of failing eyesight, which he laughingly attributed to anno Domini, prompted me to look into his eyes, and there, to my surprise and regret, I found a marked albuminuric retinitis. This led to an examination of the urine, where full confirmation was forthcoming of an established interstitial nephritis. This patient's asthma was probably still, to some extent, of the paroxysmal type, but added to the old neurosis there was now a renal element of so serious a nature that his days are certainly numbered.

The case is one of the many daily illustrations we get of the need for a routine examination of the urine, but in the bustle of active work, this is an investigation which we are liable to neglect unless there be something in the symptoms otherwise to cause us to fear the existence of kidney mischief.

One more recent experience may be referred to as illustrating an asthmatic difficulty of a different type:

A young lady, who had been operated on ten days previously for the relief of a hydronephrosis, suddenly experienced in the night an attack of breathlessness which gave rise to the greatest alarm. She was distinctly neurotic, and from the day of her operation her digestion had been a source of trouble, with flatulent distension of the abdomen as a leading symptom. The fear was at once aroused that a pulmonary embolism was the cause of her seizure, and a very guarded opinion was expressed to her friends, but the attack subsided and she experienced no recurrence and developed no subsequent pulmonary symptoms. The absence of pain in the chest made the suggestion of embolism doubtful from the beginning, but, under the circumstances in which the difficulty in breathing arose, the suspicion was justified, though a confident diagnosis either way would have been, at the time, unwarranted.

As in the region of the thorax, so in that of the abdomen, we meet with interesting problems in connexion with disorders of the stomach, intestine, kidney, and liver, and are frequently brought face to face with complex manifestations which demand the most searching clinical investigation to solve correctly. I must defer their consideration to a future opportunity, but in this region of the body as in the others to which I have alluded this afternoon, there is no lack of illustration to prove that the neurotic element in disease is one to reckon with, and that, despite some incredulity on the subject, there is no getting away from the fact that symptoms which are apparently wholly functional dominate the aspect of many illnesses, that they may obscure the true significance of organic manifestations, and that not infrequently they are so much the end-all and be-all of a disordered state of health as to justify the assumption that—at any rate so far as the present state of our knowledge enables us to judge—the neuroses must be taken into account as definite integers in our conception and treatment of disease.

A Lecture

ON THE

TREATMENT OF ECZEMATOUS PATIENTS.

DELIVERED AT THE MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, LONDON.

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In no affection of the skin is it more important than in eczema to recall the axiom that it is the patient and not the disease that requires treatment; the characteristic which distinguishes the wise practitioner from the quack is that the former realizes that he is in the presence of a sentient human being who is the subject of disease; the latter has merely a nostrum which is applied to the disease with an inevitableness as monotonous as the response of an automatic machine to the insertion of the nimble penny. The title which I have used is intended to emphasize a protest—a more familiar, shorter, and less correct title would be "The Treatment of Eczema"—and my object will be to describe certain common forms of the disease with the methods of treatment which have been found serviceable in each type.

The very first difficulty to be overcome is the exact definition of what is meant by the term "eczema." It is unfortunate that no agreement exists as to what shall or shall not form a criterion of classification; one of the latest of these definitions, that of Dr. Norman Walker—"Eczema is the term commonly applied to any wet or scaly inflammation of the skin of the cause or nature of which the observer is ignorant"—is more humorous than helpful.

The older writers, before our idea of eczema became swamped with the introduction of Unna's "seborrhoeic eczema," insisted chiefly on the presence of "a serous discharge which stiffens linen" as an essential feature of eczema; the same feature distinguishes the phenomenon which recent French authors describe as "eczematisation," to which I shall refer again. But, now that there seems a reasonable prospect of the withdrawal from this class of the whole large body of disease at present called "seborrhoeic eczema"—which, as a distinguished writer has tersely put it, is not seborrhoea and not eczema—it is possible that the older simplicity may be restored, and it would certainly make for clearness and be in accordance with the actual practice of a large majority of medical practitioners if the advent at some time or other of "a

serous discharge which stiffens linen" were again to be made the essential criterion of the disease. The presence of such a discharge, however produced, would justify the classification of the affection in which it occurred as eczema; and, consequently, all forms of so-called eczematization and of traumatic dermatitis attended by such discharge would be included in this class. It has always seemed to me a very anomalous and absurd practice to call an inflammation of the skin the result of a known irritant by one name and an inflammation of the skin clinically absolutely indistinguishable in which the cause of the inflammation has escaped observation by another name. This absurd practice is properly satirized in the absurd definition quoted from Dr. Norman Walker's textbook. In my opinion it would be highly desirable—and the time is ripe—to revert to the conception thus excellently defined by Dr. Tilbury Fox:

> Eczema is a catarrhal inflammation of the skin which is mainly characterized by a peculiar discharge, stiffening linen, and drying into thin yellow crusts, and having its stages of erythema, papulation, vesiculation, discharge, pus formation and squamation more or less marked under different circumstances, and followed in some cases by the secondary results of inflammation such as hypertrophy, oedema, and the like.

With this conception of the disease as a cutaneous reaction progressively passing through the phases enumerated and with a special tendency, by reason of the discharge, to become secondarily contaminated by pyogenic and other organisms, the apprehension and description of the various clinical variations become much more easy.

Acute Eczema.

This is the name given to an early erythematous eruption occurring with acute onset, generally on exposed surfaces such as the face, and after exposure to cold or irritants. The eruption may be aborted in its erythematous stages, or it may pass on to vesication and subsequent exudation and pus infection of the surface. The erythema when occurring upon parts where the subcutaneous tissues are lax, as on the face round the orbits, may be accompanied by pronounced subcutaneous oedema; the swelling and redness thus produced may closely simulate erysipelas, and acute eczema is frequently mistaken for that disease, from which it is distinguished by the absence of temperature and severe constitutional illness, by a less well demarcated margin between diseased and healthy skin, and often by the presence elsewhere of some patch of older eczema; it is not contagious, so that the history of infection common in erysipelas is absent. The treatment should be prompt and earnest; the possibility, with care, of causing the inflammation to subside without macroscopic vesication—for it is probable that even at this stage there are microscopic vesicles—if explained to the patient, will generally enlist his co-operation in the measures to be adopted, which entail confinement to an equable temperature indoors and the application of the blandest and most sedative lotions. In this stage rest in bed is often the best expedient to secure subsidence of the inflammation. I believe a pure milk diet, partly by its digestibility, partly by the large fluid intake which it ensures, is advisable; and the local application which I have found most useful is the following (lot. plumbi lactatis of the St. Mary's Hospital Pharmacopoeia):

Liq. plumbi subacet.	℥j
Acid. sal.	gr.ij
Lactis	℥j

This should be freshly prepared, and applied to the face after thorough shaking of the bottle with a clear, soft shaving brush and allowed to dry *in situ*, fresh application being made every four hours. Concurrently with this treatment the bowels should be kept loose, a result which commonly follows from the increased fluid of the dietary, but it may be necessary to ensure the result by saline aperients, of which Carlsbad Sprudel salts (a teaspoonful in a tumbler of hot water every morning) is one of the best. It is a common experience that alcoholic excesses increase the tendency to acute eczema, and the complete prohibition of alcohol is advisable in these cases.

The same type of acute erythematous eczema may occur upon other parts than the face, and must be similarly treated.

When the case is seen in the stage of vesication the possibility of aborting the inflammation is past, and since vesication is almost certain to be attended by pustulation the local treatment to be adopted becomes similar to that detailed under chronic eczema in which those stages are present.

Chronic Eczema.

An attempt has been made to differentiate the so-called artificial eruptions from eczema by the fact that while eczema recurs and becomes chronic, artificial eruptions cease when the cause is removed. But this differentiation is fallacious, for if the cause is constantly renewed the artificial eruption which is its response will also be renewed, and thus chronicity may be simulated. For example, a case noted by Dr. Whitfield of what was diagnosed as "chronic eczema of the mouth" proved to be due to the repeated use of an irritating liquid dentifrice. Many cases of what appear to be chronic eczema are the result of a persistent irritant, and all such causes must be rigidly investigated in any given case. The possibility of constant renewal of external irritation must be particularly borne in mind in the case of persons whose occupations oblige them to come in contact with agents such as chemicals (photographers, druggists, laboratory assistants, operating surgeons, etc.), irritating plants or bulbs, strong detergents (washerwomen, kitchen servants), and a large class of persons, such as bakers, cooks, furniture polishers, plasterers, painters, tar and gas workers, who are more obviously exposed to repeated chemical or thermal stimuli. In all such cases it becomes urgently necessary to avoid the pernicious contact if this be possible, especially during the acute stages of the reaction. When this is not possible there ensues a contest between the effects of the irritant and the remedial measures of the physician, in which the latter is not infrequently worsted.

Where no special cause can be identified and removed the conduct of the case becomes more difficult. Some general principles, however, may be enunciated, in the front rank of which I would place a caution not to use strong antiseptics, such as formalin. It is better to proceed gingerly at first with a patient whose cutaneous constitution is still a *terra incognita* to the practitioner. With a freely weeping surface, with much redness and itching, it will be found as a rule that lotions are more sedative and come more into actual contact with the diseased surface than ointments. For such surfaces a common prescription, and one which has done good service with me, is the following (lotio calaminae oleosa):

Calaminae	gr. xl
Zinci oxidi	gr. xx
Aq. calcis	℥iij
Ol. olivae	℥j

This should be applied with a brush or a swab of cotton-wool, or strips of thin washed "butter muslin" may be soaked in the lotion and kept in position with a light muslin bandage. It is important that the part should not be kept hot, and the covering of an inflamed surface with wads of cotton-wool and several folds of a heavy bandage—a dressing too often resorted to by inexperienced house-surgeons—does not promote the comfort of the patient or the amelioration of the disease. Many practitioners advocate the use of powders in the wet stage of eczema, but my own experience leads me to prefer the formula I have given. When there is much pus infection of the discharge—a very frequent complication—it is often advisable to treat this feature at once, and a very useful means is to steep the part, when its position allows of this, in an antiseptic bath for twenty minutes or half an hour, drying the part carefully after with swabs of dry cotton-wool. The antiseptic used may be varied according to the fancy of the practitioner. I have found chinosol (1 in 200 to 300) unirritating and efficacious; cyllin is also recommended (1 to 200); perchloride of mercury (1 to 2,000 or 3,000) may also be used, or this ingredient may be added to lot. calam. oleosa (½ grain to ℥vj)) when an antiseptic effect is particularly desired.

When the discharge has become less free, and the diseased surface, although not dry, has ceased to pour out exudation, the continuous application of a paste is less uncomfortable a means of treatment than the application of lotions. A paste differs from an ointment roughly in the addition to the greasy base of the latter of a consider-

able proportion of an inert powder, which appears to exert a blotting action, on the same principle which is aimed at in the familiar resort to powdered salt to dry a recent wine stain in a table-cloth. One of the most pleasant pastes thus indicated is Lassar's paste. This is often given with varying formulae, and it is well to particularize the composition as follows:

Zinc oxide	24
Starch	24
Soft paraffin	50
Salicylic acid	2

In acutely irritative conditions the salicylic acid is best omitted; it may be retained and the quantity increased when there is less inflammatory reaction, and where much scaling has taken place. An equally good application, perhaps even superior (Cremor zinci, St. M. H.), where there is much redness of the skin, is the following:

Zinc. ox.)	
Aq. calcis	āā ℥j
Ol. olivae)	
Adip. lanae	℥iij

Dissolve lanolin in olive oil by heat, sift powdered zinc oxide into it, and whip up with lime water.

This may be thickly spread over the affected part, dusted with a fine starch such as potato starch, and left without any other covering than the clean cotton or linen underclothing of the patient.

Other powders used in the composition of pastes besides starch are fuller's earth, talc, kaolin, etc.

If the patient is seen in the stage of dry crusts, when the discharge has matted together the epithelial scales and débris of the surface into an impervious scab, local applications are useless until this is removed. This end may be effected by wet occlusive dressings when the adhesion of the scab is very pronounced—as, for example, on the scalp of children. Several folds of thin muslin, known as "butter muslin"—boiled in water to remove the stiffening used in its preparation and to sterilize it—are soaked in boracic acid lotion or in other weak antiseptic fluids, preferably tepid; the excess of the moisture is squeezed out, and the dressing is applied while wet and then covered with oil-silk or protective oiled paper and kept in position with a light bandage. The dressings should be changed as soon as they become dry. Starch poultices, boricated, may be used in the place of this dressing, but are not so free from risk of spreading the pus infection.

A method which I have found very useful in treating the pustular eczema so commonly the result of pediculosis capitis in weakly children is to cover the scalp with an ointment composed of equal parts of olive oil and ung. hyd. am. dil., and enclose the head in an oil-paper cap.

When the crusts have been removed, the application of an antiseptic oinment, such as ung. hyd. am. dil. or ung. hyd. nit. dil., either unmixed or with an equal quantity of ung. acid. sal., will usually check the superficial pus infection and reduce the part to the condition of an uncontaminated exudative or excoriated surface, which may then be treated with lotions or pastes as described above. It is often possible, and is always interesting, to watch under this treatment a successive retrogression in inverse order of the stages by which an erythematous eczematous patch becomes vesicating, exudative, and suppurating.

When the suppuration is not controllable by these methods, and the stage of "chronic pus infection" is threatened, it is remarkable with what good effect vaccine-therapy can be used. The nature of the contaminating organism must be ascertained, and it is preferable that the opsonic index for that organism should be taken before vaccines are used, but even in the absence of an opsonic estimation, an inoculation of the appropriate vaccine may be tentatively made. The dose used should be a very small one; in the case of staphylococcus, which is much the commonest organism thus found to be present, a dose of 20 to 100 millions will usually suffice. The clinical improvement is often striking, and in the event of such improvement the inoculation may be repeated in about ten days' time. The cases in which such inoculations are useful are also eminently those in which general management of the patient is important in the respect of diet, environment, change of air, scene, and occupation, which will be dealt with later on.

Not infrequently patches of inveterate eczema are met with in which individual lesions have persisted for months and even years. In all such cases careful search must be made for some associated cause, such as the presence of ichthyosis, which renders the skin peculiarly liable to become eczematous; of varicose veins; the possibility of the co-existence of constitutional disease, such as gout, diabetes, and tuberculosis, must be borne in mind and investigated. When no such underlying factor is discovered, and when these diseases, though present, are irremediable, attempts may be made to stimulate the growth of healthier epidermis by the exfoliation of the diseased stratum. One of the best methods of achieving this purpose is by the application every four or five days of the following lotion, painted on the part with a cotton-wool swab wrapped round a wooden stick, such as a match or penholder, and dipped into the lotion:

Phenol, liq. picis carb., glycerin., spir. vin. rectif., āā.

In the four or five days' interval between each application the part should be painted three times a day with lot. cal., which should be allowed to dry on the surface. If the carbolic lotion should prove too painful, a 10 per cent. solution of cocaine hyd. may be applied five minutes before the application of this.

A solution of nitrate of silver (10 to 15 grains to the ounce) acts in a similar way and should be used similarly, with the application of lot. calam. in the intervals of treatment. This method is particularly useful for chronic eczema of mucous surfaces, for example, about the anus, the lips, the vulva, the nipple. I have also found picric acid in 1 per cent. or ½ per cent. strength of great service in treating chronic excoriated surfaces, as in pruritus ani with fissures.

Eczema of the nipple, especially of suckling women, is generally kept up by the presence of the milk, which, flowing over the surface, affords an excellent nidus for micro-organisms. An importance which it does not deserve is commonly ascribed to this affection from the erroneous notion that Paget's disease—epithelioma of the breast—begins as an eczema of the nipple. This has been shown not to be the case; the condition which was thought to be eczema has been demonstrated to be epitheliomatous even in the early stage which simulates eczema; the latter disease occurring upon the nipple is often difficult to treat, especially when the patient is obliged to suckle the infant; but once this process is finished the condition usually heals rapidly. Eczema of the vulva may similarly be protracted owing to the discharge over the labia of saccharine urine in diabetes, and the latter disease should be looked for in such cases.

The introduction of zinc into the skin by cataphoresis (ionization) promises a particularly valuable resource in old chronic thickened eczematous patches. A plate of zinc, the size of the patch to be treated, is used as positive electrode of an ordinary galvanic battery of 20 to 30 cells. The electrode is covered with several layers of gauze soaked in a 2 per cent. solution of zinc sulphate, and applied to the patch to be treated, the patient holding in his hand the ordinary cylindrical electrode attached to the negative pole. Contact may be maintained for five to ten minutes, the current averaging 3 to 6 milliampères during the treatment. For these especially chronic patches x rays have also been shown to be useful. Some very suggestive experiments have been tried with textile fabrics impregnated with feeble solutions of radium salts, and applied to the surface of eczematous patches with good results.

A method which I have found useful in very chronic dry cases, with much lichenification of the skin, is the combination of occlusive dressings with tar ointment. Strips of lint thickly smeared with ung. picis are cut to the shape of the part, covered with oil-silk and cotton-wool and bandaged tightly over, and left in position for twenty-four or forty-eight hours. The same lint is to be repeatedly smeared with the ointment so that it becomes thoroughly impregnated with it. Under this treatment the resolution of the thickening and the healing of the skin are often very satisfactory.

Eczema of Children.

Young children frequently suffer from eczema of the face and scalp, which is too often ascribed to teething.

Arthur Hall has demonstrated that the most important cause of the infantile form of eczema is exposure to cold; local irritants, such as hard water, strong soap, dirt in its protean shapes, all contribute to the causation, and it is doubtful what remains in this group of disease when these causes are removed from it. A common error is to mistake the inflammatory reaction which accompanies and follows an eruption of urticaria—the strophulus of infants—for eczema. In certain positions, such as the buttocks and thighs, the presence of wet and soiled napkins are a frequent cause of eczema. Scabies is very common in young children, and the distribution being rather different to the distribution in adults, it often remains undiagnosed; in infants who are constantly handling with their feet and toes the eruption is often thickly present in these parts, and a secondary eczema from scratching, or from ill-devised applications, is quite a common occurrence. On the scalp pediculi, which are almost normal denizens of the hospital class of children, in weakly subjects produce a characteristic pustular eczema chiefly affecting the occipital region. Children suffer frequently from purulent otorrhoea, and the vicinity of the external meatus is a favourite position for a secondary pustular "eczematization" engendered by the aural discharge. All these possible factors must be investigated, and it will be found that a surprisingly small number of cases remain unexplained by one or other of these causes. Whether there is such an entity as "reflex eczema," the accompaniment of teething, of rickets, and other infantile disorders, is doubtful. There is no doubt that there is no risk involved in curing this condition as speedily as may be, in spite of the now somewhat obsolete opinion that the eczematous discharge in such reflex cases acts like a seton in checking internal inflammation, and that dangerous pulmonary and visceral complications may ensue upon a too swift cessation of the discharge. The essential desideratum of treatment is to protect the part from cold or irritants and to prevent scratching, which in very young children is often uncontrollable; in these cases it is well to adopt the device common in children's hospitals—namely, to bind round the arm at the elbow-joint a cylinder of cardboard, the corrugated variety used by druggists in wrapping bottles for post being particularly convenient. By this means flexion of the arms is prevented and scratching effectually stopped. Zinc cream, Lassar's paste, lot. calam. oleosa are all useful, and are employed in the same way as detailed above.

The child is especially exposed to the tender mercies of the patent medicine vendor, and it is not infrequent to see cases which have been rendered worse, or at least have got no better, while under treatment with Cuticura, Zambuk, Antexema, and other widely advertised nostrums. The BRITISH MEDICAL JOURNAL has published analyses of these products, which are thus described:

Cuticura.—A mixture of hard and soft paraffins, slightly perfumed with rose, and coloured green.
Zambuk.—Eucalyptus oil 14 per cent., pale resin (colophony) 20 per cent., soft paraffin 55 per cent., hard paraffin 11 per cent. green colouring matter a trace.
Antexema.—Soft paraffin 35.4, boric acid 1.5, gummy matter 12.4, water 50.7.

These formulae have all large proportions of soft paraffin, which when not well prepared is in itself a directly irritating substance to many skins.

The question of bathing children affected with eczema will be considered under the heading of "general management." The nature of the diet is perhaps even more important in children than in adults. Hall pointed out that a majority of his cases of infantile eczema were breast-fed children, and there has been a tendency to reaction from the view that dietetic vagaries are responsible for the greater number of cases of infantile eczema. It nevertheless remains true that a diet which for a child under a year old comprises practically the same items as furnish forth the parents' table cannot be considered sedative.

Rigid insistence upon the exclusion of "tit-bits," such as bacon, fried fish, salt foods, pickles, cheese, strong tea or coffee, and the general confinement to milk diet, will in such cases often in itself work wonders. Regularity in feeding in the case of young children is also highly important, the usual fault of out-patient mothers being that they feed their offspring as a means of quieting the "continual cry of the cherubim," and consequently feed them much too often. In children who have been thus injudiciously dieted, one of the first therapeutic measures to be taken is to clear out the alimentary tract with a purge, of which the mist. ol. ric. remains one of the best:

Ol. ric.	ɱv
Vin. ipecac.	ɱj
Glycerini	ɱv
Mucil. tragacanth.	ɱxv
Aq.	ad ʒj

Calomel in fractional doses, frequently repeated ($\frac{1}{12}$ grain every two hours) for a few days, is a valuable alternative. After free evacuation has thus been obtained, mist. gent. c. rheo may be used for a week or two until normal motions are well established:

Sod. bicarb.	gr.j
Ol. menth. pip....	ɱ$\frac{1}{2}$
Sp. chlorof.	ɱl½
Inf. rhei	ɱ15
Inf. gent. co.	ʒj

Ter die.

General Management.

The general management of the patient is at least as important as the local therapeutics just detailed. It must not be forgotten that a patient with eczema, unlike the psoriatic, is generally ill; and routine methods unintelligently applied are less likely to be successful in this disease than in any other. Thus I have known a patient, who had been suddenly deprived of all stimulant on the general principle that stimulants are bad for eczema, improve immediately upon his being allowed to take with his meals some good port wine; his exhaustion, which prevented his eating, was thus helped and overcome, with entirely happy results. The question of alcohol is always a difficult one, and must be decided upon after careful investigation of the individual circumstances of each case. The young and plethoric will rarely be the better for it; the old, exhausted, or anaemic patient will not seldom benefit by some stimulant being allowed. I am a believer in the efficacy of large doses of fluid. Most town dwellers, at any rate, have a tendency to restrict the fluid part of their dietary, and it is sometimes advisable, in order to induce your patient to drink, to order some uneffervescent bottled water; it does not much matter what kind, provided it is pure. Contrexéville I have found the most widely palatable, and when the patient is not restricted to milk diet (in which case his fluid intake will be adequate) it is quite well for him to accustom himself to take a bottle of this a day. The real secret of many vaunted cures at spas and similar health resorts is the systematic and frequent drinking of pure water which they all agree in enjoining.

The Diet in Eczema.

I have noted in the infantile cases the children are usually breast-fed and fat and fed too often. Patients suffering from eczema usually eat too much. It is wise to restrict the quantity of meat to one meal a day, and the following items of diet are, as a general rule, to be avoided: Shellfish, pork, game, veal, spices, preserves, cheese, tomatoes, spinach, asparagus, salads, radishes, cucumbers, pickles, truffles, gooseberries, strawberries, oranges, alcohol, beer, tea, coffee. With so long an index expurgatorius, it may be asked, What *can* be taken? Butcher's meat once a day, veal excepted; fowl, with the exception of goose, turkey, and duck; fresh eggs, green vegetables, except spinach, cress, cauliflower; cooked non-acid fruits may be given. Milk foods of all kinds may always be cheerfully admitted, and in some cases should be the only food. The efficacy of internal remedies is much debated, and the practice of different physicians varies greatly according to their views on the relative importance of external irritants *versus* diathetic causes. The adhesion of the great French school of dermatology, headed by Besnier and Brocq, to the doctrine of diatheses, and the conception of skin disease as reaction of the organism to the innumerable accidents which may interfere with its complex working, has restored to a great extent the prestige of internal treatment, which had been rather dimmed by the views of the dominant Viennese school, and still further by the theories of bacterial causation so long held by Unna and his following. To the French school in greatest measure is due the more modern knowledge that eczema is primarily and essentially amicrobic;

the initial microscopic vesicle is demonstrated to be sterile; the later microbic infections are due to secondary contamination of the surface. With these views the importance of the study of the individual becomes enormously increased, and Brocq thus sums up the formidable series of investigations which should be made to elucidate causes of disease other than those of internal source:

"Hereditary pathological states, individual idiosyncrasies, defective alimentation, defective assimilation and excretion, troubles of the venous system, troubles of the circulatory system, troubles of lungs, kidneys, genital apparatus, ductless glands."

Where any such cause can be identified, treatment must be directed to its removal. The hereditary transmission of tendency to eczematous disease, as well as an individual idiosyncrasy, must be accepted by any person of wide experience, and the nature of the cause lifts it beyond the domain of practical therapeutics. Defective alimentation, covering as it does the ingestion of food, has been partly dealt with under the heading of diet; in full-blooded young subjects moderation of the intake of solids will probably be indicated; in the exhausted, impoverished patient of hospital practice, on the other hand, liberal diet and rest are at least as important as any therapeutic measures, as the improvement manifested by admission of such patients to the wards amply demonstrates. Constipation must always be looked for and most carefully avoided, preferably by mild and tonic purgatives. The patient should be weighed at frequent intervals; there is an eczema of the obese as well as of the cachectic, and both are equally obstinate.

The nervous associations of eczema are numerous and difficult to treat. Nervous exhaustion is best met by rest, change of scene and occupation, and the administration of tonics such as combinations of arsenic and iron, strychnine, phosphoric acid, cod-liver oil. It is often stated that sea air is bad for eczema; while it is possible that salt-laden breezes may irritate the eczematous skin, I am convinced by many observations that its bracing effect, especially in the tired town-dweller, on the general constitution counterbalances the local disadvantages mentioned. In other cases where nervous excitability, with vasomotor disturbances, is the dominant feature, sedative measures, such as the administration of bromides, ergotin, antipyrin, colchicum, quinine, belladonna, are indicated; spa treatment in such cases, with its quieting routine, is particularly useful.

Where there is evidence of much oedematous infiltration into the skin, with vivid redness and itching, I have repeatedly found the greatest benefit, especially in children, from doses of calcium lactate, given either in small doses (5 to 15 grains), three times a day before meals, or in large doses (1 drachm), two or three times a week. In the latter method a convenient means of administration is to suspend the powder in milk and drink the latter after vigorous stirring. Calcium lactate should be continued only until the symptoms of oedema and itching have subsided. It tends to produce constipation, and this result must be prevented, preferably by mild laxatives, such as sulphur or senna.

I have touched upon the question of baths when dealing with eczema of children. A general impression, which has acquired the force of a religious belief, has grown up that water is baneful to the eczematous skin, and clearly patients have suffered much misery from the prohibition of washing. The late Professor Lassar, one of the most experienced and successful of dermatological therapeutists, spent much enthusiasm and energy in trying to subvert this doctrine, with only partial success, for it still lives and flourishes. I am strongly of opinion that this superstition, like many others, has little foundation in fact. It is surely desirable that an eczematous surface, like any other abrasion or wound, should be kept aseptic, and, with proper precautions, washing may be resorted to in any case of eczema and at any stage. The precautions are to use no strongly alkaline or irritating soaps, to use soft water, and more especially to thoroughly dry, not by rubbing, but by "blotting" the moisture off the part, after the immersion, with absorbent wool or gauze.

The question whether a patient should be kept in bed or not will have to be decided by the extent of the disease, the parts attacked, and other considerations. In the forms where only a small surface is involved and no constitutional illness is apparent, it would, of course, be absurd to make an invalid of the patient. But nothing is more impressive than the difference in the rate of improvement between an in-patient and an out-patient, to be attributed to the greater facility with which dressings can be applied, as well as to the advantages of equable temperature, reduction of the pulse-rate and tension, and the diminution of vasomotor disturbances and avoidance of mental activity which rest in bed entails. When the area involved is large the impossibility of keeping the dressings *in situ* in any other position than the horizontal one, will in itself sometimes compel that course. It is, of course, essential that the sickroom should be well ventilated, warm and cheerful, and that opportunities of chill in the change of dressings should be guarded against. Finally, long hours of sleep and avoidance of worry and psychological disturbances are desiderata which are too often "counsels of perfection" for the patient, but which the physician must, nevertheless, make it his business to obtain for him.

THE DISTRIBUTION OF LONGEVITY IN ENGLAND AND WALES.

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A FEW years ago, in a paper read at Plymouth, I pointed out a simple way of showing the great longevity prevalent in Devonshire by stating, for each registration district, the percentage of the total deaths which is formed by the deaths at 75 and over; and in 1907 I published a table of these percentages for all the registration districts of Devon and Cornwall.*

Since then the Registrar-General's decennial report for 1891 to 1900 has become available, and, as local general longevity may affect local general prognosis in many chronic diseases, I thought it worth while to work out these percentages of survivals for the whole of the registration districts of England and Wales. The result is remarkable. Wide differences in local longevity are found to exist in different parts of the country, and it becomes a matter of no common interest to decide how far these differences in percentage mean real disparities in local expectation of life.

The simplest mode of proceeding seemed to be to compare with each other those districts which furnished the highest and lowest percentages (Table I).† It at once became apparent that the highest were found in country districts and the lowest in town districts. Two sources of fallacy then suggested themselves—namely, the large infant death-rates of the towns and the movement of population into the towns from the country.

The first source of fallacy was easily disposed of by recalculating the percentages (for the first ten districts in each column of Table I) after deducting from the total deaths the deaths occurring under 5 years of age (Table II). The contrast between the high and low percentages remained almost as remarkable as before.

The second source of fallacy required more lengthy investigation. Table I gives in parallel columns the highest and lowest percentages amongst the districts arranged in order of numerical sequence, and side by side with each the latest available figures (1881 to 1890) from the Registrar-General's reports relating to (*a*) density of population expressed in terms of acres to a person, and (*b*) the decennial increase or decrease of population for the decade 1881 to 1890. In this table it is seen that:

1. All the low percentages are associated with relatively dense populations, and all the high percentages with relatively sparse populations.

2. Most of the low percentages are associated with increasing populations, and most of the high percentages with decreasing populations.

* In the Climatological Section of *A Book of the South-West*, the Handbook of the 1907 Annual Meeting of the British Medical Association.

† The Scilly Islands alone were omitted as, I understand, special arrangements are made there for the emigration of the surplus population.

TABLE I.—*Percentages of Total Deaths formed by Deaths at the Ages of 75 and over—1891 to 1900.*

Percentages of 7 and under.					Percentages of 25 and over.				
District.	County.	Percentage of Survival.	Decennial Change in Population, 1881 to 1890. Per Cent.	Density of Population, Acres to a Person 1881 to 1890.	District.	County.	Percentage of Survival.	Decennial Change in Population, 1881 to 1890. Per Cent.	Density of Population, Acres to a Person 1881 to 1890.
Manchester	Lancashire	2.2	− 2.48	0.01	Leyburn	Yorks, W. Riding	29.4	−8.27	10.06
Whitechapel	London	3.3	+ 4.34	0.005	Hartismere	Suffolk	29.2	−6.97	3.58
Strand	,,	3.4	−18.06	0.013	Aylsham	Norfolk	28.5	−3.35	3.91
Stepney	,,	3.4	− 1.99	0.008	Aberayron	South Wales	28.5	−7.56	5.44
Pontypridd	South Wales	3.5	+57.03	0.62	Depwade	Norfolk	28.3	−2.30	3.17
Liverpool	Lancashire	3.6	−25.31	0.01	Guiltcross	,,	28.3	−2.17	4.34
Salford...	,,	4.0	+12.67	0.04	Sedbergh	Yorks, W. Riding	28.3	−0.96	12.97
Middlesbrough ...	Yorks, N. Riding	4.2	+34.82	0.21	Dunmow	Essex	28.1	−7.46	4.24
Wigan	Lancashire	4.4	+19.19	0.32	Droxford	Hants	28.0	+1.74	4.31
Bedwellty	Monmouth	4.4	+16.16	0.46	Hoxne	Suffolk	28.0	−7.20	4.42
Holborn	London	4.5	− 6.55	0.006	Oundle	Northampton	27.8	−8.95	5.45
Sheffield...	Yorks, W. Riding	4.5	+11.76	0.07	Plomesgate	Suffolk	27.7	+0.84	3.67
London City	London	4.6	−25.45	0.015	Lutterworth	Leicester	27.7	−7.32	4.58
Stoke-upon-Trent ...	Stafford	4.7	+16.46	0.11	South Molton ...	Devon	27.5	−7.36	8.95
Barrow-in-Furness ...	Lancashire	4.7	+ 9.41	0.22	Church Stretton ...	Shropshire	27.5	−4.56	8.34
Prescot	,,	4.8	+19.47	0.43	Blything	Suffolk	27.4	−1.64	3.68
Warrington	,,	4.8	+20.41	0.40	Bala	North Wales	27.4	−9.27	15.37
Oldham	,,	4.9	+19.41	0.09	Caxton	Cambridge	27.3	−9.16	5.20
South Shields... ...	Durham	4.9	+37.00	0.13	Loddon	Norfolk	27.3	−3.63	4.48
Merthyr Tydfil ...	South Wales	4.9	+15.54	0.70	Wayland	,,	27.3	−1.97	4.84
Burnley	Lancashire	5.0	+39.67	0.45	Mere	Wiltshire	27.3	−8.67	4.90
Bolton	,,	5.1	+17.88	0.22	Catherington... ...	Hants	27.0	+8.85	4.58
Wolstanton	Stafford	5.2	+10.85	0.018	St. Ives	Huntingdon	27.0	−4.61	3.79
St. George-in-the-East	London	5.3	− 2.89	0.005	Pewsey...	Wiltshire	27.0	−5.56	6.24
West Derby	Lancashire	5.4	+23.70	0.09	Dursley	Gloucester	26.9	−3.15	2.16
Leigh	,,	5.4	+25.66	0.38	Henstead	Norfolk	26.9	+1.86	3.95
Prestwich	,,	5.4	+23.29	0.08	Shaftesbury	Dorset	26.7	−6.49	3.04
Cardiff	South Wales	5.4	+63.71	0.56	Sturminster	,,	26.4	−4.63	4.01
Blackburn	Lancashire	5.5	+16.45	0.24	Axminster	Devon	26.4	−5.24	3.31
St. Saviour, Southwark	London	5.6	+ 3.86	0.006	Thetford	Norfolk	26.3	−2.14	6.90
Barnsley	Yorks, W. Riding	5.6	+21.69	0.40	Horncastle	Lincoln	26.3	−6.10	5.63
St. Olave, Southwark	London	5.9	+ 1.51	0.011	Pwllheli	North Wales	26.3	−2.78	4.12
Birmingham	Warwick	5.9	+ 0.35	0.01	Southwell	Nottingham	26.2	−5.06	5.97
Hunslet	Yorks, W. Riding	5.9	+21.82	0.19	Forehoe	Norfolk	26.2	+0.14	3.23
Holbech	,,	5.9	+ 6.32	0.11	Walsingham	,,	26.2	−0.21	4.17
Walsall	Stafford	6.0	+19.03	0.024	Dulverton	Somerset	26.1	−8.89	11.40
Toxteth Park	Lancashire	6.0	+ 9.71	0.03	Williton	,,	26.1	−7.34	5.74
Chorlton	,,	6.0	+16.04	0.04	Bedale	Yorks, N. Riding	26.1	−0.52	6.69
Leeds	Yorks, W. Riding	6.0	+16.92	0.07	Buckingham	Buckingham	26.0	−6.82	4.50
Easington	Durham	6.0	+11.50	0.88	Wheatonhurst ...	Gloucester	26.0	−6.60	3.43
Newcastle-on-Tyne ...	Northumberland	6.1	+30.99	0.04	Shipston-on-Stour ...	Warwick	25.9	−6.01	4.52
Gateshead	Durham	6.2	+24.54	0.22	Easingwold	Yorks, N. Riding	25.9	−7.21	7.07
Haslingden	Lancashire	6.3	+ 8.52	0.29	Mitford...	Norfolk	25.9	−3.83	3.98
Bradford	Yorks, W. Riding	6.4	+ 9.72	0.13	Swaffham	,,	25.8	−3.62	6.51
Hartlepool	Durham	6.4	+37.08	0.37	Malmesbury	Wiltshire	25.8	−5.61	4.32
Sunderland	,,	6.4	+14.08	0.08	Linton	Cambridge	25.8	−2.67	3.93
Aston	Warwick	6.4	+23.35	0.13	Torrington	Devon	25.8	−7.67	5.83
Rotherham	Yorks, W. Riding	6.5	+21.25	0.64	Bingham	Nottingham	25.8	−4.96	4.82
Swansea...	South Wales	6.5	+20.34	0.31	Honiton	Devon	25.7	−2.89	3.97
Bramley...	Yorks, W. Riding	6.6	+23.89	0.12	Wangford	Suffolk	25.7	+5.85	2.39

TABLE I—*(continued).*

Percentages of 7 and under.					Percentages of 25 and over.				
District.	County.	Percentage of Survival.	Decennial Change in Population, 1881 to 1890. Per Cent.	Density of Population, Acres to a Person 1881 to 1890.	District.	County.	Percentage of Survival.	Decennial Change in Population, 1881 to 1890. Per Cent.	Density of Population, Acres to a Person 1881 to 1890.
Ashton-under-Lyne ...	Lancashire	6 6	+ 6.97	0 24	Okehampton	Devon	25.6	−3.25	8.00
Preston	,,	6.7	+11.13	0.50	Spilsby	Lincoln	25 6	−7.11	4.60
Bury	,,	6.7	+ 6.02	0.25	Royston	Herts	25.6	−5 83	3.80
Stockport	Cheshire	6 8	+15.47	0.23	Lexden	Essex	25 6	−0.73	3.28
West Ham	Essex	6.8	+81.70	0.07	Thingoe	Suffolk	25.6	−4.00	5 23
Stockton	Durham	6.9	+19.05	1.10	Brackley	Northampton	25.5	−5 51	4 60
Lanchester	,,	6.9	+13.17	1 09	Anglesey	North Wales	25.5	−3.30	4 03
Birkenhead	Cheshire	7 0	+22.26	0 03	Chard	Somerset	25.4	−2 31	2.45
Dewsbury	Yorks, W. Riding	7.0	+ 5.73	0.16	Crediton	Devon	25 4	−5.60	5.35
Neath	South Wales	7.0	+13 36	1.98	Thame	Oxford	25.4	−3.41	4 09
					Kingsbridge	Devon	25 3	−5 43	4 00
					Bicester	Oxford	25.3	−1.26	4.67
					Bosmere	Suffolk	25.2	−2.32	3.85
					Freebridge Lynn ...	Norfolk	25.1	+0.13	6.05
					Blandford	Dorset	25.0	−2.62	4.47

Now, of these two, there need be no hesitation in admitting a causal relation between density of population and percentage of survival. Such a relation is entirely in accord with all we know of the influence of density of population on health, and is borne out by a consideration of its influence on death-rate at successive groups of ages. The point to be determined is whether movement of population has anything to do with apparent percentage of survival.

Since this movement is constantly transferring a mass of young and adult life from the more sparsely populated areas to those more densely populated, it might reasonably be supposed that the differences in percentage were, at least in large measure, due to this movement—and, at first sight, the figures in Table I appear to support this supposition. Indeed, it can scarcely be thought that this movement is altogether without effect. But it has to be remembered that almost all densely populated areas are increasing in population, and that almost all sparsely populated areas are decreasing in population, so that the decennial changes shown in Table I are perhaps no more than should be looked for from the corresponding densities of population.

The following considerations suggest, at all events, that the influence of movement of population on the percentages of survivals is comparatively small.

1. If the columns in Table I are carefully examined marked exceptions are seen to exist to the usual rule of increase or decrease of population, and no clear relation is apparent between the actual percentage of survival and the degree of decennial increase or decrease of the population. (It must be borne in mind, however, that the changes of population given are only for the decennium 1881 to 1890.)

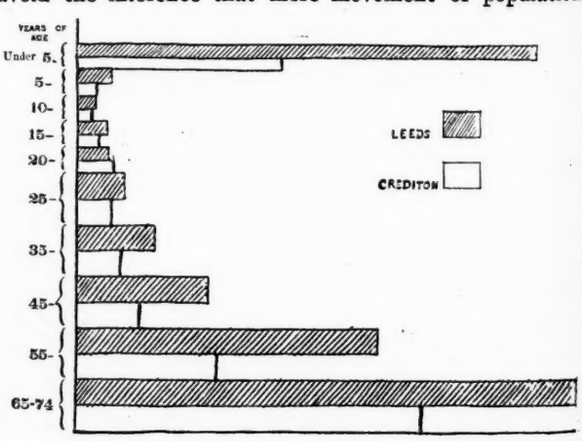
2. The age of 75 is beyond the time of life at which change of residence is usually made.

3. If the death-rates at successive age periods in each district given in Table II be compared, good cause is at once obvious for the higher percentages characterizing the sparsely populated districts. Between 1891 and 1900 the country death-rates were less at almost every age period than the town rates (Table III); and the annexed diagram shows this clearly in the cases of Crediton district (in Devon) and the district of Leeds, neither of these two districts being an extreme example of its class.

4. If we compare in Table I the densely populated districts whose population was either almost stationary or actually declined between 1881 and 1890 with the sparsely populated districts whose population was either almost stationary or actually increased, we shall scarcely avoid the inference that mere movement of population makes comparatively little difference to the figures of percentage of survival.

TABLE II.—*Percentages of Total Deaths over Five Years of Age formed by Deaths at the Ages of 75 and over—1891 to 1900.*

District.	Percentage.	District.	Percentage.
Manchester...	4.1	Leyburn	35 6
Whitechapel	5 2	Hartismere	37.7
Strand	4.6	Aylsham	38.7
Stepney	8.9	Aberayron	34 8
Pontypridd	7.8	Depwade	36.7
Liverpool	5.8	Guiltcross	36.9
Salford	7.7	Sedbergh	34.4
Middlesbrough	8.0	Dunmow	35.1
Wigan	9 1	Droxford	36 7
Bedwellty	8 7	Hoxne	37.7



A correction for sex distribution might possibly slightly modify the figures. A correction for age distribution, so

TABLE III.—*Average Annual Rate of Mortality from all Causes at Different Ages to 1,000 living during the Ten Years 1891 to 1900.*

District.	All Ages.	Under 5.	5-	10-	15-	20-	25-	35-	45-	55-	65-74.
Manchester	26 3	99.4	6.7	3.8	5 5	6.7	10.3	19.0	30.8	50 9	79.3
Whitechapel	31.5	87.7	8.6	6.7	8.4	9.0	16 5	30.7	45 7	66.9	95.0
Strand	30.8	115 3	10.7	7.9	8.8	9 6	15.4	28.9	40 9	55.6	85.8
Stepney	22.3	104.9	6 9	3.3	3.4	3.4	5 1	10.5	15.5	27.3	52.3
Pontypridd	20.6	80.9	5.2	2.6	4.8	5.9	7.3	10.2	17.3	36 9	72.6
Liverpool	33.2	114.5	8.9	4.4	6.1	8.1	14.8	26.8	41.8	65 5	107.0
Salford	24.2	91 9	6 6	3.3	4.3	5 8	7.8	15.1	26.0	49.0	90.2
Middlesbrough	20.3	69.9	4.9	2.7	4.9	6.1	8 3	13.0	20.9	40.4	77.4
Wigan	21.8	73.0	5.3	2.7	4.0	5.7	6 8	12.0	20.2	41.5	86.1
Bedwellty	21.0	74.2	5 8	2.3	4.1	5.8	6 8	11.7	18.8	40.3	84.9
Leyburn	15.1	27.5	2.1	1.5	3.3	3.7	5.0	8.4	8.7	24.6	57.9
Hartismere	16.9	31.8	2.5	2.2	3.5	4.7	5 6	7.6	10.4	20.9	51.6
Aylsham	16.2	36.7	2.6	2.2	2.1	5.2	4.8	6.3	9.7	18.8	42.6
Aberayron	19.5	33.8	4.6	2.9	6.1	9.5	8.9	10.3	10.2	21.6	50.0
Depwade	15.7	31.9	2.3	1.9	2.8	4.7	4.9	6.4	9.5	18.1	51.7
Guiltcross	15.6	31.1	2.9	2.0	2.2	3.1	5.2	6.6	8.9	18.4	48.9
Sedbergh	15.3	27.6	3.0	2.4	2.9	5.6	3.8	9.5	10.3	23.0	56.8
Dunmow	16.5	23.7	3.4	2.4	3.5	5.0	5 3	5.8	11 9	20.6	50.8
Droxford	13.6	28.25	2.6	1.3	1.9	3.2	4.7	4.9	9.4	16.4	45.6
Hoxne	15.3	31.5	2.6	1.5	3.3	4.3	4 5	6.7	8.4	17.9	45.0
Leeds	—	74.8	5.7	3.0	4.7	5.2	7.4	12 6	21.5	41 9	82 6
Crediton	—	32.6	3.2	2.6	3.5	5.8	5 5	6.9	10.2	22.3	54 5

essential in inquiries into the incidence of certain diseases, has appeared to me inapplicable in this particular inquiry.

I would submit that it may be concluded:

1. That there is a very remarkable disparity of longevity in different districts of England and Wales.
2. That this disparity is closely related to density of population.
3. That mere movement of population from country to town, whilst probably tending to make the disparity appear greater than it really is, has on the other hand probably no very considerable effect upon the figures.

THE DIAGNOSIS AND TREATMENT OF SEVERE ANAEMIA.*

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THE title of my paper is, perhaps, somewhat too extensive for the ground that I shall be able to traverse—a more correct description would be the differential diagnosis and treatment of pernicious anaemia—and since in the diagnosis and treatment the examination of the blood is of crucial importance, I shall have a good deal to say on the features of the blood in pernicious anaemia and in other cases of severe anaemia which may so resemble it as to give rise to difficulty in diagnosis.

The main symptoms of pernicious anaemia are simply those met with in any severe anaemia—great breathlessness on slight exertion, faintness or actual syncope, great muscular weakness, and palpitation of the heart. All these may be present in severe anaemia from whatever cause, and are in no way characteristic of pernicious anaemia, but there are certain other features which may be present, though by no means always so, which afford further clinical evidence of the disease. These are the peculiar yellow colour of the skin, suggestive of a slight degree of jaundice; the presence of numbness and tingling in the hands and feet, the result of the lesions in the peripheral nerves and spinal cord, which are almost always found if these are examined *post mortem;* and the presence of small ulcerations and red patches about the tongue, lips, and gums, of soreness in the oesophagus and stomach, vomiting, and occasional attacks of diarrhoea, with the passage of pale, clayey and sometimes frothy stools. These symptoms of an infection of the alimentary tract are not always present, but if present they are most characteristic.

There are many conditions which may give rise to anaemia so profound as to bear a close clinical semblance to pernicious anaemia. It would be impracticable to refer to them all, but the most important among them are these:

1. Diseases of the haemopoietic and lymphatic system, as leucocythaemia—spleno-medullary, lymphatic, or, more particularly, acute; Hodgkin's disease; leukanaemia, a condition probably closely allied to acute leucocythaemia; and primary aplastic anaemia.
2. Carcinoma of the stomach.
3. Repeated small haemorrhages.
4. Long-standing cases of septicaemia, in particular ulcerative endocarditis.
5. Severe chlorosis.
6. Chronic Bright's disease.
7. A number of secondary causes of severe anaemia, scurvy, malaria, syphilis, phthisis, infection of the intestine with *Bothriocephalus latus* or *Ankylostomum duodenale*.

All these conditions may cause severe anaemia which clinically closely resembles pernicious anaemia and accordingly they must be carefully borne in mind in examining a suspected case. It is a fatal tendency to place too sole a reliance on the blood examination. The examination may prove to one's satisfaction that a patient is suffering from pernicious anaemia, or it may as conclusively prove that he is not, but in this latter case the cause of the anaemia remains in doubt unless one has made inquiries as to other possible causes. So that when making the blood examination one must at the same time examine for any evidence of carcinoma of the stomach or for any history of haemorrhage, and a common form of the anaemia from haemorrhage is that which follows compara-

* An address to the Manchester Medical Society, November 4th, 1908, illustrated by a lantern demonstration of photomicrographs of the blood.

tively small but frequently repeated losses of blood from piles. Evidence of chronic septicaemia must be sought for and the heart examined, in the recollection that ulcerative endocarditis is very insidious in its onset, and that its symptoms frequently point to anywhere else other than the heart as the site of the mischief. Then the urine should be examined for albumen and other evidences of chronic nephritis, a condition which not uncommonly reveals itself by no other symptoms but those of anaemia. Other causes, with, as a rule, fairly obvious signs, such as scurvy, malaria, syphilis, and phthisis, must be borne in mind and examined for at the same time. Nor must it be forgotten that severe chlorosis may closely resemble pernicious anaemia, and that it may be met with not only between the ages of 18 and 25, but occasionally in older women, particularly in those that have suffered from it in their earlier years.

If, on a careful examination, none of these causes of severe anaemia can be recognized at present, there is a presumption that we have to do with a case of pernicious anaemia, but conclusive evidence can only be gained through the blood examination.

Blood Examination.

In pernicious anaemia the *red corpuscles* are greatly reduced in number; instead of 5,000,000 or more in the cubic millimetre we find only 2,000,000, 1,500,000, or they may be reduced to 1,000,000 or lower; that is to say, that there are only 40, 30, or 20 per cent. of the normal number of corpuscles. The *haemoglobin* is also reduced, but not to the extent that the corpuscles are; in a patient with 1,500,000 corpuscles (that is, 30 per cent. of the normal number) there may be 40 per cent. of haemoglobin, and the fraction formed by putting the percentage of haemoglobin above that of the red corpuscles is greater than unity, in the case supposed being $\frac{40}{30} = 1.33$, which, differently put, reveals the fact that each corpuscle contains 133 per cent. of the normal amount of haemoglobin, this figure, expressed either in relation to unity or per centum, being known as the haemoglobin index. The *leucocytes* are almost as constantly diminished from the normal 8,000 down to 2,000 or 3,000 or less in the c.mm., and as this reduction is almost solely confined to the polymorphonuclear neutrophiles there is a relative excess of lymphocytes, these cells forming 60 to 70 per cent. of all the leucocytes present, instead of normally 15 to 20 per cent. On examination of stained films of the blood the most notable feature is the great diversity in the size and shape of the red corpuscles. There are many larger than normal, *macrocytes*, and, indeed, the average size is larger than normal, in keeping with the fact that each corpuscle contains, on an average, more than 100 per cent. of haemoglobin. The diversity in shape is an equally marked feature. In a normal blood the corpuscles are all approximately equal in size and with a correct circular outline, but in pernicious anaemia round corpuscles are in a minority, the majority are oval or elliptical or pear-shaped, or still more irregular—*poikilocytes*. We find, further, changes in the staining capacity of the red corpuscles, some are *polychromatophilic*—that is to say, they show an affinity not only for the acid eosin stain, as is normal, but also for the basic methylene blue, and so appear greenish or bluish; whilst some show the presence of granules which stain with methylene blue, the so-called "*granular degeneration*," or basophile stippling of the erythrocytes. In addition we may find *nucleated red corpuscles*, though I am inclined to lay much less stress upon them than upon the other features I have mentioned, and it is particularly the finding of the variety described as megaloblasts which is of such significance. Nucleated red corpuscles are not uncommon in many conditions of severe anaemia, but these are mostly normoblasts, corpuscles of about normal size, shape, and staining capacity with a small deeply staining nucleus. The megaloblasts which are met with in pernicious anaemia and in leucocythaemia are very different looking cells, and are characterized by three typical features—namely, the large size of the corpuscle, the large nucleus with well marked nuclear network, and the cytoplasm showing very decided polychromatophilia.

Now let us turn to the characters of the blood in some of these other forms of severe anaemia that I have referred to. The more chronic forms of *leucocythaemia* only occasionally present any high degree of anaemia; and in addition they present certain clinical features, the great enlargement of the spleen in the spleno-medullary form and of the lymphatic glands in the lymphatic form, which suggest the nature of the disease. A single glance at the stained film clinches the diagnosis, the great increase of leucocytes is at once apparent; a large proportion of these, 25 to 40 per cent., in the spleno-medullary form being *myelocytes* with a large single nucleus and neutrophile or eosinophile granules, whilst in the lymphatic form the great majority, well over 90 per cent., as a rule are *lymphocytes*. *Acute leucocythaemia* requires more circumspection. The anaemia is usually most profound, and not uncommonly there is no enlargement either of spleen or lymphatic glands, and it is impossible to pronounce for certain about a case until the blood examination is made, and in the absence of such examination there is little doubt that cases frequently go undiagnosed. But the appearance of the film is conclusive, and we find large numbers of lymphocyte-like cells, the larger forms usually preponderating. Of *leukanaemia* I need say little; it is an uncommon, and as yet not quite clearly defined, condition. There is most profound anaemia, and the blood, while in many ways resembling pernicious anaemia, as in the high haemoglobin index, and the large average size of the corpuscles, bears also some resemblance to that in leucocythaemia. Though there may be no increase in the number of leucocytes (at times even a decrease), there are qualitative changes, consisting in the presence of a considerable proportion of *myelocytes* or of the large "*lymphoid*" *cells* that are met with in acute leucocythaemia, which distinctly bring it into the category of leukaemia-like diseases, and at times the number of leucocytes may greatly augment, so that the blood comes to be indistinguishable from a case of acute leucocythaemia.

Apart from these special conditions, the other forms of severe anaemia I have enumerated all show practically uniform blood changes which are on the whole the antitheses of those met with in pernicious anaemia. The red corpuscles are rarely reduced to the extent that they are in pernicious anaemia while the haemoglobin is proportionately more reduced than the corpuscles, giving an index of below 100, very often far below. The average size of the red corpuscles is smaller than normal, instead of being larger, and there is comparatively little variability in size or shape. Nucleated red corpuscles are less numerous; if present they are of the normoblast type, megaloblasts being practically unknown, whilst those which show polychromatophilism or granular degeneration are infrequent, except the latter in lead poisoning. I may say parenthetically that the anaemia of *bothriocephalus* infection is an exception to this type. I have never seen a case, but the blood is said to be indistinguishable from that of pernicious anaemia, and the diagnosis depends on the discovery of portions of the worm or its ova in the faeces.

Let us consider one case, that of a man with severe anaemia, the result of long-standing loss of blood from bleeding piles. His haemoglobin was down to 28 per cent., a more profound anaemia than in most cases of pernicious anaemia. But the corpuscles were proportionately much less reduced, being 2,700,000, so that the haemoglobin index was as low as 52, each corpuscle containing barely half the normal amount of haemoglobin, whilst the corpuscles in the stained film appeared small and washed out, but fairly regular in size and shape. Another man had all the appearance and symptoms of a case of pernicious anaemia, and took his place among the patients at a university examination as such. But on examination the haemoglobin was found to be 20 per cent. and the red corpuscles 2,570,000, giving an index of 52, and the stained films showed all the characters of a secondary anaemia, and none of pernicious anaemia. I felt very strongly at the time that the slight gastric symptoms which he showed, and which had naturally been looked on as the gastric symptoms of pernicious anaemia, were due to carcinoma of the stomach—a surmise which subsequently proved correct, and was verified *post mortem*.

Occasionally in cases of secondary anaemia one sees so great an irregularity in size and shape of the red corpuscles that at a first glance a diagnosis of pernicious anaemia is suggested. In one such case, however, the index was found to be only 74, and a more critical examination of the film showed that the average size of the corpuscles was in keeping with this low haemoglobin index—decidedly below the normal—and so the superficial resemblance to pernicious anaemia vanished. Very occasionally one may get a few true macrocytes, as in one case of severe

anaemia from carcinoma at the cardiac orifice of the stomach. Here there were occasional enormous red corpuscles that would have done credit to any case of pernicious anaemia, and others that were distinctly above the normal size. But these were exceptions, and the *average* size was much below normal, in keeping with a haemoglobin percentage of 18, a red count of 1,560,000, and a haemoglobin index of only 57 per cent. Even in a typical case of chlorosis I have come across large numbers of macrocytes, which at first sight strongly suggested pernicious anaemia, but the other corpuscles were small, and, in spite of the number of large corpuscles, the average size was below normal, as shown by the low haemoglobin index of 64.

Prognosis and Treatment of Pernicious Anaemia.

There is much error in regard to the prognosis; the disease is too commonly looked upon as inevitably and speedily fatal, and so no proper steps are taken to ensure adequate treatment. Now, although I do not for a moment deny the seriousness of the disease, it is my experience that no other of the more serious diseases responds so satisfactorily to prompt and efficient treatment; and that *if recognized early* some cases may be actually cured, while others may have several years of fairly comfortable life ensured to them.

Take, for instance, a case whom I had under my care in August, 1903. Her lowest red corpuscle count was 1,570,000 and the blood at that date had all the typical characters of pernicious anaemia. After two and a half months' treatment the red corpuscles had risen to 5,064,000 per c.mm., the haemoglobin was 92 per cent. and there was absolutely no abnormality to be detected in the corpuscles. I have had her under me since then from time to time and she has shown no sign of relapse.

Another case had only 1,210,000 red corpuscles in the c.mm. when he was admitted into the infirmary under Dr. Dreschfeld in 1899, and was in every way a typical case of pernicious anaemia. After five weeks' treatment his corpuscles had risen to 3,560,000 and had almost lost their irregularity in size and shape, and two and a half years later, when he was under my care at the Ancoats Hospital, they had risen to 4,180,000 and in appearance were perfectly normal. He died in 1906, but from consumption, not from pernicious anaemia.

Now as regards the details of treatment. Ever since Byrom Bramwell first demonstrated its value arsenic has been our sheet-anchor in pernicious anaemia. The mode of giving it is of the greatest importance. It is quite useless to give 2 or 3 minims of liq. arsenicalis as is too often done in a perfunctory fashion. It must be started at 4 or 5 minims three times a day and rapidly run up by increments of 1 minim per dose every day or every other day to a dose of 12, or, if possible, 15 minims. When these large doses are being approached, the blood should be again examined, and, if improvement is commencing, the dose should be dropped, and then again increased. The reason for this is that if improvement has started there is less need to push the drug and greater need to avoid setting up toxic symptoms, which might entail its being wholly stopped for a while, with consequent liability to relapse. I have emphasized this point particularly, because I have on more than one occasion had this account given me on asking a doctor how a patient that he had sent to me had gone on: "That he had gone on splendidly for some weeks with the continued full doses of arsenic, but then he had shown toxic symptoms, the arsenic had had to be stopped entirely, and he had rapidly gone to pieces." Of course, if the second examination of the blood shows no commencing improvement, the arsenic must still be pushed, and, in the hope of its eventually proving effective, the risk of poisonous effects must be taken. One is between the devil and the deep sea.

The natural history of a case under such treatment usually is that he improves rapidly after he has once started to pick up, gives up treatment, and before long relapses, and the successive relapses which may occur are usually each more severe and more difficult to cure than their predecessors. He feels so well as the result of treatment that nothing will convince him that he is not permanently cured, and too often his doctor falls into the same belief and sends him off for a long holiday, with most dire consequences. It is of the utmost importance that the patient should keep on with small doses of arsenic, even though feeling perfectly well, that he should never go longer than ten days or a fortnight without being seen by his doctor, and that if there is any suspicion of a commencing relapse a blood examination should be at once made, for the relapses, if detected early, may respond readily to treatment, but if overlooked (and their onset is nearly always most insidious) they prove more stubborn than the previous attack.

There is another line of treatment which may be combined with the arsenical, based on Hunter's theory that the essential cause of the disease is a chronic oro-gastro-intestinal infection. The removal of carious teeth, the use of antiseptic mouth washes and of gastric and intestinal antiseptics should never be neglected. Various internal antiseptics may be used. I have mainly employed salol, beta naphthol, mercury perchloride, and petroleum emulsion. The same rule applies to these as to arsenic—they should be continued in small doses during the well periods and in full doses on any suspicion of relapse.

Finally, I should like to say a word about the use of red bone marrow in the treatment of pernicious anaemia. I had seen so many cases in which various extracts had been used with absolutely no good result that I not unnaturally became very sceptical as to its value. Its use, too, was advocated on an imperfect analogy with the use of the thyroid substance in myxoedema. The action of the thyroid gland is a chemical one, and its secretion is a chemical product, but the action of the bone marrow in producing the blood cells is a purely vital one, which must cease as soon as its cells are dead. But comparatively recently Dr. Gullan has published some cases in which its use appears to have been effective. He suggests that in addition to the vital process of reproduction of red and white cells which goes on in the bone marrow there may be a chemical process—the production of an internal secretion. He supposed that when the red bone marrow is administered this internal secretion may be such as to stimulate the vital production of blood corpuscles in the patient's bone marrow, and also that it may act, as there is some experimental evidence to show that arsenic does, by increasing the resistance of the red corpuscles to the action of the haemolytic toxins which are looked on as the cause of the disease. Consequently I tried the effect of the red marrow on two cases, old standing cases, one of whom had been suffering for at least four years, and had relapsed several times. Both were proving resistant, as is the way with relapses, to the arsenic and antiseptic treatment, and I can say that the more rapid improvement in both dates from the addition of the red marrow to their dietary, and one, the worse of the two, has now kept well for six months on no other treatment, though I cannot say how long the improvement is likely to last. At any rate, I believe that combined with other methods it is one which should not be neglected.

PERNICIOUS ANAEMIA WITH PIGMENTATION OF THE SKIN AND BUCCAL MUCOUS MEMBRANE.

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THESE notes on two cases of pernicious anaemia which were under observation about the same time appear to me to be of interest on account of the unusual site of the pigmentation in the first case, and the early appearance of glossitis as a symptom in both.

CASE I.

H. F., aged 52, a baker, was first seen on October 14th, 1908, complaining of general weakness of about five months' duration.

History.

Family history was unimportant and personal history good, he having had no illness of importance since childhood. There is a history of alcoholic excess at intervals over many years; he is a moderate smoker and has had no venereal disease.

Except for occasional attacks of biliousness—gastric discomfort and flatulence—he has always had good health. In May, 1908, he was able to carry on his business, which entailed early rising and long hours, without undue fatigue, and felt quite well. In the beginning of June he had an attack of diarrhoea without stomach disturbance after eating a quantity of new potatoes, and to this he attributes his present illness. The attack lasted two or three days. Some time afterwards he noticed that he had to take any exertion more leisurely on account of shortness of breath, and that his feet were slightly swollen at night. He suffered from pains in the legs at this

time, and occasionally noticed purple spots over his shins. During July the breathlessness became marked, and his friends commented on it and on his pallor. He became aware also of a decided loss of energy, feeling "done up" after his day's work, and of an excessive sleepiness. Owing to increased weakness and giddiness he had to shorten his hours, and finally by the middle of August to give up work altogether, as he had sometimes to be assisted home after fainting attacks. While his appetite and digestion seemed good, he has had at intervals, causeless and painless attacks of diarrhoea which ceased in a few days on a strict milk diet; and, occasionally, since the onset in June, a sore mouth and tongue which made chewing very painful. On each occasion he has "cured" this with borax and honey, and for the past six weeks it has not troubled him. For the last two months he has been mostly in bed; at times able to get up and go out; at others, shivery, languid, and liable to faint if he raises his head from the pillow. He has not been able to rise for two weeks past. His present complaint is of weakness and distressing noises in the chest and ears. He has never had pain in the stomach nor vomited. There is no history of any haemorrhage.

Condition on Examination.

He is a well-built, muscular man, inclined to stoutness, but with no sign of wasting. Expression is languid. Face is extremely pale and pigmented (see below), and skin over the rest of the body is slightly yellow in tint. Mucous membranes are of a dull white colour, and the ocular conjunctiva is slightly yellow. Temperature is 100° F.; pulse 110, regular and very compressible. Tongue is clean, pale, flabby, and unusually smooth. All the teeth are gone, except two incisors, two canines, and four molars, which are blackened and carious. Pupils are equal and normal. There is slight oedema of the chest wall, dorsum of feet, and eyelids, and tenderness on pressure over sternum and long bones. The slightest exertion, such as sitting up in bed, brings on a violent thumping pulsation over cardiac area, especially noticeable in the epigastrium, and evident in the vessels of the neck, and this pulsation he "hears painfully distinctly." The area of cardiac dullness is slightly increased to the right, and a soft blowing V.S. murmur is heard distinctly at the apex, less distinctly at base. Second pulmonic sound is accentuated. At bases of lungs behind there is deficient resonance to percussion, and a few fine moist râles are present. There is very marked dyspnoea on movement. Liver dullness extends about 1 in. below the costal margin, and the edge can be palpated there. It is not sensitive to pressure. Spleen is not enlarged, and there are no enlarged glands. Abdomen is relaxed and soft, and nothing abnormal can be detected there.

Urine is high coloured, acid, and specific gravity is 1018. A faint trace of albumen is present, but no casts. Knee-jerks are active, and plantar and superficial reflexes normal. Sensation appears to be undisturbed.

Fundus Oculi (Dr. Arthur J. Ballantyne).—There is abnormal pallor and transparency of the blood in the retinal vessels. In both fundi there are numerous flame-shaped haemorrhages and several soft-edged exudative patches. Some of the haemorrhages have the pale centre, sometimes described as characteristic of the haemorrhages of pernicious anaemia.

Blood examined on October 14th showed red corpuscles 1,230,000 (24 per cent.) per c.mm.; haemoglobin, 32 per cent.; index, 1.33; and white corpuscles, 5,500 per c.mm. The most noticeable feature in the stained slide was the very large size of a great number of the red cells, and on measurement 40 to 45 per cent. of them were over 9 μ. Most showed a tendency to oval in shape, and only a few were circular. There were numerous poikilocytes and microcytes. Polychromatophilia was marked, many of the red cells staining grey, brown, or purple in whole or in part (Erhlich-Biondi stain). Polymorphonuclear leucocytes were diminished in numbers to 50 per cent., and a small percentage of neutrophile myelocytes was present. Nine megaloblasts and two normoblasts were seen in differentiating 1,000 leucocytes.

On the arms and legs and lower abdomen, and to a lesser extent on the face and neck, a marked pigmentation of the skin is present. Over the face and neck pigmented patches are distributed, pale grey to pale brown in colour, with a distinct edge and irregular outline, but clearly marked off from the surrounding very pale skin. Similar patches are present on the lower legs, dorsum of feet, forearms, and backs of hands, and in those situations are of a dark brown colour. Scattered over those surfaces are also a number of discrete spots, light brown to chocolate in colour, varying in size from a pin's head to a sixpence, and mostly of circular outline. They are not elevated. Over thighs, flanks, and lower abdomen the skin presents a mottled appearance, due to the presence of a large number of discrete pale brown spots about the size of a lentil. A few spots are present on the front of the chest. There is no pigmentation of axilla or nipples.

Pigment spots are also present on the buccal mucous membrane, situated on the palate, lips, and cheeks; on palate and lips being symmetrically placed, on cheeks irregularly and where the teeth are absent. They are thirty in number, the smallest being the size of a pin's head, and the largest $\frac{3}{8}$ in. by $\frac{1}{4}$ in. The colour varies from a light patchy brown to a deep homogeneous chocolate; they are irregular in outline, but have a distinct edge. The spots are not raised, nor affected by pressure, nor sensitive to touch.

On the ocular conjunctiva on the upper surface of the globe, situated at the extremity of the vessels, are dark, opalescent spots about the size of a pin's head.

There were no signs of haemorrhage on the mucous membranes or skin.

The patient could give no definite information about the spots on his skin, except that they had "become much worse lately."

After-History.

The patient became gradually weaker, though he had periods of apparent improvement, alternating with periods of apparent collapse. Temperature was irregular till he died, varying from 99° F. to 101° F., but never normal. Dyspnoea (which was not affected by posture) was very marked, and palpitation troublesome. On October 20th red corpuscles were 933,000 per c.mm., and haemoglobin 28 per cent. On the 21st he fainted on attempting to get out of bed; vomited considerably, and for the next two days was hardly able to move. On the 24th, he again fainted on attempting to rise. Red corpuscles were 614,752 per c.mm., haemoglobin rather under 20 per cent., and he had to be punctured several times before enough blood could be got to fill the pipettes. On the 25th he was unconscious all day, bowels and bladder acting involuntarily. Next morning he was sitting up in bed, having partaken of bread and porter. In the afternoon he became comatose, and remained so till he died, twelve hours later. *Post-mortem* examination was refused.

CASE II.

Mrs. H., aged 65, was seen in November, 1908, complaining of general weakness, giddiness, and palpitation, of eight months' duration.

History.

She had a history of ten years' indifferent health, having suffered from anaemia and shortness of breath, but otherwise no definite illness till two and a half years ago. Then, following a "sore tongue," she suffered from attacks of diarrhoea, and became gradually very weak, pale, and breathless. She was in hospital (August, 1906) for a time, and left much better. A similar turn took place in 1907; she was again in hospital, improved, and was better for some months. Eight months ago weakness and breathlessness gradually increased again; and since then she has suffered from bilious attacks (without vomiting or pain), which frequently left her skin yellow. These attacks were followed often by diarrhoea, and occasionally accompanied by a sore tongue. During the last month she has been completely confined to bed on account of weakness. There is no history of haemorrhage. There is a history of alcoholic excess for some years.

Condition on Examination.

The skin was lemon yellow in tint and ocular conjunctiva was slightly yellow. There was no marked wasting. There was slight oedema of the eyelids, pulse was 100, regular and soft, and temperature 99° F. Teeth were mostly absent and remainder carious, and the gums were spongy. Tongue was slightly furred, and on the left side of dorsum and tip a shallow ulcer, 1 in. by $\frac{3}{4}$ in., with red edges, and very sensitive to the touch, was present. Cardiac dullness was normal and a V.S. murmur was present all over the cardiac area. Liver was slightly enlarged, and the spleen could be palpated. There was tenderness to pressure over the stomach. Urine was pale, with a specific gravity of 1016, and contained a trace of pus. Knee jerks were active and superficial reflexes normal. Blood examination showed red corpuscles 1,800,000 to 1,660,000 per c.mm., haemoglobin 50 to 48 per cent., index 1.6 to 1.5, white corpuscles 4,400 to 5,400 per c.mm. More than 50 per cent. of the red corpuscles were over-sized. Poikilocytosis and polychromatophilia were marked. Differential count gave neutrophiles 42.5 per cent., small lymphocytes 43.7 per cent., large lymphocytes 9.7 per cent., eosinophiles 3.2 per cent., myelocytes 0.7 per cent. Two megaloblasts were seen in counting 400 leucocytes on one occasion, three on another, but no normoblasts.

A slight degree of pigmentation of the skin was present. On the face and neck, arms and backs of hands, legs, thighs, dorsum of feet, and lower abdomen small pale brown spots, fairly circular in shape and about the size of a lentil, were

Blood Examinations (Case I).

	Red Corpuscles.	Haemoglobin.	Colour Index.	White Corpuscles	Neutrophiles.	Small Lymphocytes.	Large Lymphocytes.	Eosinophiles.	Basophiles.	Myelocytes.	Megaloblasts.	Normoblasts.	No. Differentiated.
October 14...	1,230,000	32 %	1.33	5,500	50.1 %	39 8	3.8	4.7	0.1	1.5	9	2	1,000
October 20...	933,000	28 %	1.5	—	51.7 %	42.7	2.3	2.1	0.2	0.9	7	0	1,000
October 24...	614,752	20 %	1.6	5,000	50.1 %	47.0	2.0	0.4	0.0	0.5	22	1	1,000

distributed. On exposed surfaces the spots were darker brown in colour. There was no pigmentation of nipples, axillae, or mucous membranes.

These cases present some features of interest. The entire duration of Case I from the onset of distinct symptoms was five months, and the course, though showing the peculiar periodicity of the disease, was typically "progressive." Hunter[1] states those acute cases are the rarest form, and Cabot,[2] in an analysis of 1,200 cases, found 14 per cent. progressive. The patient definitely dated the onset to an attack of diarrhoea—in itself, as a cause, out of all proportion to the anaemia that followed—and his only previous complaint was of biliousness. It is interesting to note that he made no complaint of a sore mouth until particular inquiry was made on that point, though it had given him considerable pain and he had had recourse to treatment for it frequently. Both diarrhoea and glossitis appeared—according to his statement, when he was "quite well"—before any definite symptoms of anaemia had developed, and both recurred frequently during the course of the illness. In the second case the patient attributed the onset voluntarily to a "sore tongue" followed by diarrhoea. She had been anaemic for some years previously, but after this attack of diarrhoea her condition became rapidly worse. From her history she has had two relapses, and in each the gastro-intestinal symptoms were early and periodic.

These cases appear to me to agree with Hunter's conclusions. As a result of his prolonged experimental, pathological, and clinical inquiries he holds that pernicious anaemia is not merely a special form of anaemia, but that it is a specific entity. "The primary etiological factor is a specific haemolytic infection, giving rise to a specific infective glossitis, gastritis, and enteritis, with sepsis of the alimentary tract, as a potent predisposing factor." "A definite, specific, haemolytic, infectious disease, localized to the alimentary tract, with characteristic mode of onset, clinical features, and course; haemolytic and infective lesions."[1]

The appearance and symptoms of Case I at first suggested Addison's disease. The typical lemon-yellow tint of the skin was nowhere present, and the pigmentation of the face to some extent obscured the extreme pallor. N. S. Davis,[3] writing on Addison's disease, says "the symptoms of pernicious anaemia are so much like those of Addison's disease that the former might be suspected until the characteristic pigmentation appeared on some part of the surface"; and other writers refer to a possible confusion. In this case the widespread pigmentation of the skin, the presence of well-marked pigment spots on the buccal mucous membrane, with progressive asthenia, gastro-intestinal symptoms, and a tendency to syncope, made a diagnosis doubtful until the blood examination revealed the characteristic changes of pernicious anaemia, and further inquiry brought out the suggestive points in the history.

Pigmentation of the skin is an unusual feature in pernicious anaemia, and most of the textbooks do not refer to its occurrence. Cabot, in his analysis above referred to, found in 38 cases mention of a "brownish tint of the skin resembling sunburn, and usually attributed to overdosing with arsenic." Case II was possibly of this nature, as she had arsenic frequently and over long periods; but the resemblance of the spots in appearance and situation to those in Case I is suggestive. In Case I the administration of arsenic as a cause could be definitely excluded. A number of similar cases have been reported. Laache[4] noticed a dirty yellowish discoloration of the skin in several cases, which recalled Addison's disease; and Immerman[4] reported two cases in which a well-marked bronzing of the skin developed. Packhard[5] has reported a case in which areas of pigmentation were present over the face and body, with areas of leucoderma, and quotes Broadbent as having described a similar case.* Decastello[6] has reported three cases, in one of which the pigmentary changes corresponded with sensory nerve areas; and Fortune[7] a case in which well-defined brown patches and brown spots were present over body and limbs. It is noteworthy that in the cases which came to necropsy (Laache, Immerman, Fortune) the suprarenal capsules were found normal. On the other hand, Stanley[8] has described cases of anaemia (pernicious?) in which pigmentation of the skin occurred and in which at necropsy there were marked changes in the suprarenal bodies.

With the exception of its presence in Addison's disease, buccal pigmentation does not appear to be of common occurrence. It has been reported as having been found, without any very evident cause present; in chronic gastric conditions; in abdominal conditions (Schultze[9]); in Graves's disease (Sibley[10]). It does not seem to occur as a result of the prolonged use of arsenic.

With regard to its occurrence in pernicious anaemia, I have found very little reference in the literature. Hale White[11] showed a case of pernicious anaemia with pigmentation in the buccal mucous membrane at a meeting of the Association of Physicians of Great Britain and Ireland (May, 1907) of which I have seen no report. Lazarus[4] reports a case in which "on the tip of the tongue and on the mucous membrane of the cheeks, were circumscribed reddish-brown, mahogany-like discolorations, of punctate to dime size, which were undoubtedly the sites of hyperaesthesia, and probably represented haemorrhages into the mucous membranes."

In the present case the spots were on the palate, lips, and cheeks, but absent from the tongue; insensitive to touch; and no signs of haemorrhage were observed.

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TWO CASES OF CARDIAC DISEASE.

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THE following notes of two cases of cardiac disease who were under my care at Llangammarch Wells, during the summer of 1908 may be of interest.

CASE I.

A youth, aged 16, who had had a weak heart for several years. His history showed that he had scarlet fever at the age of 6 years, and he also had subsequently several attacks of influenza. In 1902 he had a severe fainting attack, and consulted a specialist, when a cardiac lesion was first observed. A short time before his arrival at Llangammarch he had evidently strained himself by running when at school.

When I saw him in July he was somewhat feeble, being thin and tall; his height was 6 ft. and his weight 9 st. 3 lb. The heart was considerably enlarged. At the apex, which was in the nipple line, the sounds were normal, but at the right base there was a systolic murmur, which was also heard behind. The pulse was regular, 72, and the tension 130 mm. by Potain's manometer. There was extensive granular pharyngitis.

He was placed on a strict course of treatment, which he carried out very faithfully. He drank a glass of barium water three times daily, and he had daily either a barium bath or massage. At the commencement he was, owing to his feeble condition, restricted in his exercise, but after a short time he was encouraged to undertake a little hill climbing. His diet was carefully regulated, and he had a short rest every afternoon. The pharyngeal granulations were destroyed by the galvano-cautery.

He soon began to improve; he gained in weight and strength, and was able to ascend a fairly steep hill slowly without any marked acceleration of the pulse, and without any signs of dyspnoea. This treatment, after the method suggested by Oertel, I find to be of considerable value, and at Llangammarch there are special facilities for carrying it out. It is only used in selected cases.

After six weeks' treatment I found the patient much improved; the area of cardiac dullness had diminished, the apex beat now being distinctly felt half an inch inside the nipple line.

I heard from my patient a few weeks ago, and he reported that he felt very well, had gained in height, and had no cardiac symptoms to trouble him.

CASE II.

A young man, aged 19, had had rheumatic fever at the age of 11, and a second attack in 1907. He was also subject to chorea.

He was anaemic, he stooped considerably, and breathed chiefly through the mouth. The chest was flat, the area of cardiac dullness enlarged, the apex being in the nipple line, where there was heard a loud systolic murmur, which was conducted outwards and heard behind. The pulse was regular, the rate being 68 and the tension low. There was no dyspnoea

and no pain, but he had palpitation occasionally. At times there were slight choreic movements of the facial muscles, and also of the left arm and leg. There was considerable obstruction in the nasal passages owing to hypertrophy of the lower turbinate bodies.

He was placed on a course of general treatment similar to that mentioned above. The mucous membrane of the lower turbinate bodies was cauterized in several stages. After a few weeks he was able to breathe entirely through the nose, and ceased oral respiration. He made good progress, his palpitation ceased, and he was able to take walking exercise with ease and without discomfort. In addition to the balneological treatment I am convinced that the removal of the nasal obstruction had a marked effect in relieving the heart from obstruction in the pulmonary circulation.

A few days ago his medical attendant reported that he had no trouble with the heart and looked very well. The murmur was still present, but the pulse was regular, the rate being 68. He had increased in weight and had no dyspnoea.

One object of the treatment is to train the patient as to the amount and nature of the exercise he may take with benefit, and this forms a valuable guide to him when he returns to his ordinary life.

In conclusion, I should note that the mineral water, besides barium chloride, contains a considerable amount of calcium chloride, which recent observations have shown to have a somewhat similar action—that is, in slowing the pulse and increasing the force of the systole.

CASE OF GENERAL PARALYSIS OF THE INSANE WITH EXTRAORDINARY LYMPHOCYTOSIS IN THE CEREBRO-SPINAL FLUID.

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IT is now generally recognized that in tabes and general paralysis of the insane the cerebro-spinal fluid usually—perhaps always—contains an excess of lymphocytes, and that this lymphocytosis may be of considerable value in the diagnosis of the parasyphilitic diseases of the nervous system.

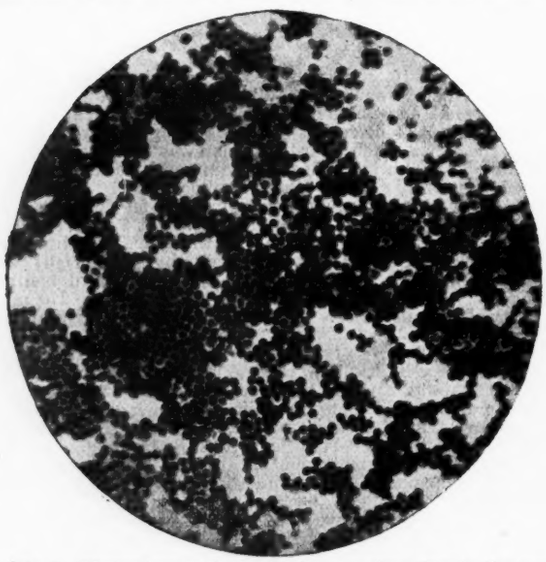


Fig. 1.—Photomicrograph of a lumbar puncture film in the case of general paralysis described in the text, magnified 60 diameters. The film was made after centrifuging 5 c.cm. of the fluid for ten minutes. The photograph was taken from a thin portion of the film.

Under normal circumstances the number of lymphocytes in a field of 450 diameters, in a film made after centrifuging 5 c.cm. of the cerebro-spinal fluid for a period of ten minutes, is usually two or three. In tabes and general paralysis of the insane the number is greatly increased. In several of Dr. Bramwell's cases which I have examined during the past six months the number has been from 200 to 250. Dr. Purves Stuart states that he has observed 450 in a field. In the following case the enormous number of 3,450 was counted in a single field of 450 diameters; in places where the film was thick this number was greatly exceeded, but, owing to the thickness of the clumps, the exact number could not be estimated. In the non-centrifuged cerebro-spinal fluid the number of leucocytes (almost all lymphocytes) was no less than 285 per c.mm.

I am indebted to Dr. Bramwell for permission to publish the notes of this case.

G. W., aged 30, single, a wine merchant's traveller, was admitted to the Edinburgh Royal Infirmary, under the care of Dr. Byrom Bramwell, on March 5th, 1909, complaining of nervousness and difficulty in speaking.

History.

The history furnished by an intelligent sister was that in July, 1907, it was noticed that he was beginning to speak indistinctly, slurring his words now and then. About six months later occasional twitchings of the lips and unsteadiness of the tongue were noticed. In the summer of 1908 he had a great deal of worry connected with money matters; shortly afterwards the articulation and the movements of the lips seemed to get worse. He was able to work up to June, 1908, but then found he was unable to get on with his employers; he had lived at home since.

His sister had noticed very little change in his general behaviour. There had been no grandiose ideas; his power of concentration was, she said, unaffected.

In 1898 the patient contracted syphilis, developed a rash and sore throat, and took pills for over six months. He had had no other illnesses of note.

Family History.

Nothing bearing on the case.

Social Conditions.

The nature of the patient's employment afforded numerous opportunities of taking wine and spirits, of which he seems to have availed himself freely; he states that at times he drank to considerable excess.

Present Condition.

The patient is a very strong, heavily-built man, with a somewhat hang-dog expression. His weight is 13 st. 5 lb.; two years ago he weighed over 15 st. There are so signs of syphilitic disease on the surface of the body.

Nervous System.

Although his mental symptoms are not well marked yet there is something strange in his manner. While speaking to him you get the impression that you are dealing with a person of rather childish intellect. Sometimes he is timid, at other times suspicious and morose.

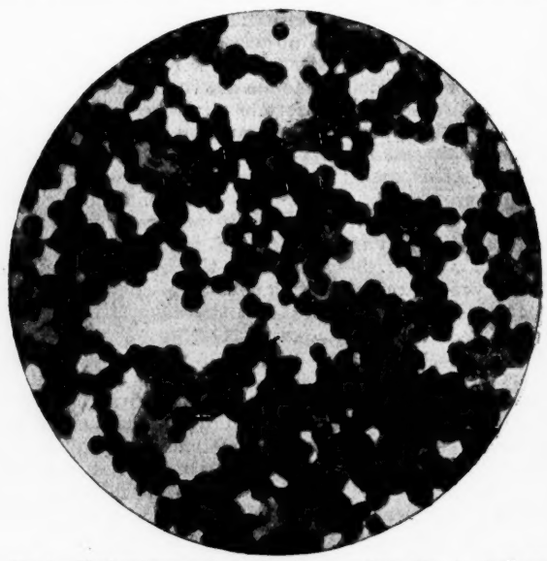


Fig. 2.—Photomicrograph of a lumbar puncture film in the case of general paralysis described in the text, magnified 450 diameters. The film was made after centrifuging 5 c.cm. of the fluid for one minute. The photograph was taken from a thin portion of the film.

There are no abnormal sensations (paraesthesiae) and no objective disturbances of sensation, except that the patient is rather less sensitive to pain than the average man.

The gait is normal; there is no Rombergism and no paralysis. In the muscles of the legs, and to a lesser extent in those of the arms and trunk, there is a curious fibrillary tremor. When the patient holds out the hand there is a slight tremor. There is marked tremor of the lips, tongue, facial muscles, and eyelids.

The tremor of the eyelids is very marked when the eyes are tightly shut. There is no ocular paralysis and no definite nystagmus, though the eyes are jerky when the patient tries to fix a near object. The pupils are equal, each measuring 4 mm. in diameter; the left pupil is very slightly irregular in out-

line; both pupils contract to light and on convergence. The optic discs are normal.

The articulation is much affected, slurring and indistinct, and is accompanied by inco-ordinate movements and tremors of the lips and tongue. "Hippopotamus" and other test sentences are pronounced in the characteristic G.P.I. fashion.

All the deep reflexes are distinctly exaggerated. The plantar reflex shows active flexion; the abdominal and cremasteric reflexes are present. The organic reflexes (bladder and rectum) are normal. There are no signs of disease in the other systems or organs.

Lumbar Puncture.

An examination of the cerebro-spinal fluid revealed some very interesting facts. The fluid came out under distinct pressure; it was very slightly turbid; this turbidity was not due to the admixture of blood; it was alkaline in reaction, and had a specific gravity of 1001.

After centrifuging 5 c.cm. of the fluid for ten minutes, decanting and examining the deposit, it was found that the film presented an extraordinary appearance. Here and there the leucocytes were collected in great masses several layers thick; between these masses they were more sparsely distributed (Fig. 1). In places where the distribution was fairly uniform there were, under a magnification of 450 diameters, about 3,400 leucocytes to the field (Fig. 2).

In a fresh specimen of the fluid which had not been centrifuged, there were on an average 285 leucocytes per c.mm.

In the dense parts of the film all the leucocytes appeared to be lymphocytes, but in the thinner parts it was found that polymorphs were present in the proportion of 1 to 5. The lymphocytes varied considerably in size, the great majority being small.

Chemical examination showed that the fluid contained a large amount of albumen.

A lumbar puncture was made on several different occasions and the results verified by Dr. Edwin Bramwell, Dr. Ford Robertson, and Dr. W. T. Ritchie. Dr. Ford Robertson and Dr. Ritchie made bacteriological examinations of the fluid, with negative results.

ANAESTHETICS IN GENERAL PRACTICE.

By H. BELLAMY GARDNER, M.R.C.S., L.R.C.P.Lond.,

FORMERLY INSTRUCTOR IN ANAESTHETICS AT CHARING CROSS HOSPITAL, ETC.

It is my intention in this paper to recount some of the details which procure success in the administration of anaesthetics in general practice. It would not be wise to refrain from the preliminary remark that safe anaesthesia cannot be conducted without actual personal practice on the part of the administrator, for the larger his experience of its difficulties the greater becomes his facility in preventing their onset, and in correcting untoward symptoms when they have arisen.

There are two main principles by which the administrator must be guided in his care of an unconscious patient: (1) To retain a weakly active corneal reflex, and (2) to keep the airways clear.

1. *The Corneal Reflex.*

The most sensitive spot on the eye is the centre of the cornea opposite the pupil. This is protected from injury in daily life by the smart closure of the upper eyelid on contact with a foreign body. When a patient is unconscious the muscular reflexes are gradually lost in a definite order as narcosis deepens, but the sensitiveness of the centre of the cornea does not disappear until last of all, and this happens *before* the respiratory and cardiac centres are themselves invaded.

I cannot lay it down too emphatically as an invariable law that it is impossible under any known conditions for the respiratory centre or the cardiac centre to be poisoned by chloroform or ether whilst the upper eyelid still closes when the centre of the cornea is touched by the finger.

This sign, therefore, furnishes an absolute guide to safety, in that, if by careful frequent testing of both corneae a condition of weakly active reflex closure of the upper eyelid is always retained, any complications which occur cannot be due to central poisoning of the respiratory or cardiac nervous mechanisms. An extraordinary fact connected with this simple procedure is that so very few know how to do it. The administrator stands behind the patient, and uses only one finger with which to raise the upper eyelid and touch the cornea. That is, he should insert the pulp of his middle finger between the palpebral edges, drawing the upper eyelid upwards and at the same time brushing that finger pulp lightly against the centre of the cornea. When he has arrived at the upper limit of the pupil he should let go altogether, noting both by the senses of touch and sight the degree of briskness with which that upper eyelid closes.

The frequent mistake which is made verges on the ludicrous, for the eyelid is held open with one finger so that it cannot move at all, and then the cornea is rubbed with another finger whilst the observer gazes doubtfully at the inert ocular globe.

An improperly-elicited corneal reflex is not only useless but dangerously misleading. The sclerotic portion of the eyeball is weak in tactile sensibility, and is useless as a guide in surgical anaesthesia. The lower eyelid in man does not and is not intended by Nature to cover the cornea, and corneal contact has practically no effect upon it in the unconscious state. There is only one proviso with regard to this sign, which is that when a definite difference exists in the activity of the two upper eyelids, we must be guided by the more active. Working on this principle, on account of the fact that a large pupil is found both in the second and fourth stages of anaesthesia, which can only be differentiated by reference to the activity of the corneal reflex, pupillary signs may be neglected altogether. A progressive dose of chloroform or ether having been given until the upper eyelid is weakly active in response to corneal contact, this condition can be exactly retained throughout by stopping the anaesthetic for a few breaths to quicken its activity, or giving more anaesthetic to weaken it as required.

Put in another way, the addition of more anaesthetic by the administrator should always be a guarantee to the surgeon and onlookers that the patient has at that moment a demonstrable corneal reflex.

2. *To Keep the Airways Clear.*

It is necessary to know by the sound of the breathing when they are clear. There is, of course, a distinct difference between the sounds of inspiration and expiration; but this is only known instinctively after careful practice. The rule in anaesthesia is that every expiration must be either heard or felt by the administrator in order to make sure that efficient breathing is going on. It is of no use to see the abdominal and thoracic movements, for they may proceed for a considerable time after obstruction to air entry has taken place. Fifteen years' experience has taught me that unrecognized obstruction to air entry is the main factor of danger and death in anaesthesia, that dosage regulated by the corneal reflex is rapidly learnt and easily adjusted; but that elimination of asphyxial factors in all cases is the avocation of an artist and the study of a lifetime. The successful elimination of the numerous possible asphyxial factors as they arise depends upon their immediate detection, causal differentiation and application of the proper remedial measure without hesitation. So subtle in their action are some of these factors that the clinical effect first noticed is often only a secondary syncopal result upon the heart and circulation, when the general condition is graver than it ought to have been allowed to become.

Duskiness of the lips and ears is a sign that air is not entering the lungs in adequate amount, and is due to this absence of air-intake, not to ether or chloroform *per se*. Here we have a definite physical sign, and the man who guides himself by the sound of breathing, putting in a small mouth prop, raising the jaw or drawing the tongue forward directly the sound of breathing through clear airways is replaced by that of partially obstructed respiration, prevents the onset of duskiness and its consequent additional dangers.

I venture to assume that the operations for which anaesthesia is most frequently required in general practice, with the exception of dental extractions, are those undertaken by general practitioners themselves, and do not include those for which a surgeon has been engaged.

Dental Extractions.

In the employment of nitrous oxide gas for dental extractions, practice is especially required, not because of danger of giving an overdose, but on account of the extremely short anaesthesia which results from its administration.

Attention to a number of small details which greatly assist the dentist in his work is the only means of ensuring a painless operation under its influence. We

should remember that patients usually obtain their first practical knowledge of surgical anaesthesia in the dental chair, and in order to obtain the confidence of the public we should be most particular that no pain whatever is felt during dental extractions, so that when serious surgical operations have to be faced fear of a semiconscious condition may not be added to the patient's other trials.

There is a very great difference in the amount of nitrous oxide required by lethargic persons of slow speech and nervous, rapid talkers; the well-nourished, healthy girl of 15 provides the ideal subject; the powerfully-built plethoric man the most difficult.

In the first place, in order to prevent the tongue gravitating backwards and obstructing the airway, the patient *must* be seated quite upright in the chair with the head in a line with the body, *not* extended backwards. Dentists soon learn the value of this precaution, but if one should still insist that he cannot operate on a particular tooth in this position (though I think it is quite a fallacy), the chair may be inclined a little backwards after anaesthesia has been induced just before the removal of the facepiece. Dr. Hewitt's mouth props for insertion between the molar teeth are the best, because they bridge across two or three teeth and do not become dislodged. They should be placed in the mouth upon the side opposite to the site of the first extraction and kept in place by slight pressure upwards against the lower jaw.

The dental chair should not be raised very high, for unless both are tall men the doctor's control of the patient and the poise of the dentist are both lost by the patient being out of proper reach.

Movements of the patient's legs nearly always take place during gas anaesthesia, and his heels should therefore be either resting loosely on the floor of the room on either side of the chair or over the *end* of the chair platform, so that the legs are relaxed and no fulcrum exists for the limbs to push the body backwards and disturb the position of the head. Many an otherwise successful case has been ruined for lack of this simple precaution, which should never be neglected. The fingers of the patient's hands should be interlaced and clasped together in the lap for similar reasons.

Men's collars should be removed to prevent their being soiled by blood, which always runs out of the mouth straight down the chin and neck. Patient's friends should not be allowed near the chair, but placed some way off behind it where they cannot see the patient's face and the actual operation, but most patients behave better without friends in the room.

Too much should not be promised nor attempted at one sitting. I have a very great respect for the difficulties of tooth extraction, and one tooth may often require two doses of ordinary gas for its extraction if it should break off before its roots are all out. Two, or at most three, average teeth should only be promised at one sitting, unless they are loose.

Supposing the teeth to be extracted to be on both sides of the mouth, the doctor can give the best help in keeping the mouth open if the extractions are first made on the patient's left side—that is, the side upon which the doctor stands, for when these are finished he can then most readily slip in a Mason's gag on this left side, and pull out the mouth prop from the right side ready for the next extraction. The doctor should always have a clean sponge at hand to aid the dentist in sponging blood away from the alveolar margins during root extractions.

Oxygen in varying quantities from 6 to 15 per cent., added to nitrous oxide according to requirement, in order to eliminate asphyxial factors, aids enormously in the management of all kinds of patients, and personally I never administer it without. Great advantage can be obtained by the use of nitrous oxide and oxygen through Paterson's nosepiece for continuous administration, which I employ for difficult cases requiring four or five minutes' anaesthesia. The nearest approximation to the good colour and tranquillity ensured by the addition of oxygen is attained with the simple gas apparatus by admitting one breath of air after ten respirations of gas, and another breath of air at each succeeding fifth respiration until the eyes are in a fixed position, and some stertor has arisen. Absolute silence should be maintained during the operation as talking is remembered by the patient afterwards. Towards the termination of the period of anaesthesia the dentist should be told to "stop" at the moment when, the left eyelid being held open, voluntary movements of the eye in looking round recommence. Sensation to pain is the last faculty to recover from nitrous oxide anaesthesia.

Gas and ether is most valuable in more extensive dental operations, and may quite safely be given to patients sitting upright in the dental chair, though it is best to lay them flat on a sofa for the after-period of recovery. With a Clover's gas and ether apparatus, a small mouth prop always being first inserted, five breaths of nitrous oxide are first given, the valves are then thrown out of action, and rebreathing into the gas bag commenced; immediately after this, ether is gradually introduced; when stertor has arisen, the small ether bag is applied instead of the gas bag, and a breath of air allowed at every fifth respiration. One good dose of ether taking five or six minutes to administer produces more satisfactory anaesthesia and less after-effect than two or three short doses, and when ether has been chosen this plan should always be followed. Children awake very quickly from a single dose of ether.

Circumcision.

More deaths and conditions of danger under chloroform have occurred during circumcision than are warranted by the gravity of the operation. In infancy and early childhood the C_1E_2 mixture followed by ether on an open mask should be used, because the reflex effect upon the respiration always produced by nipping and cutting the prepuce is not so marked nor so dangerous when respiration is fairly deep, and the circulation well stimulated by ether.

It is not wise nor necessary to obtain a degree of anaesthesia free from all reflex movement of the thighs for circumcision in childhood; but, having weakened the corneal reflex, it is well to get the nurse to place her hand on the patient's knees to prevent their upward reflex movement when the prepuce is first seized and to keep them down during the operation. Reflex laryngeal crowing almost always arises also at this moment, and the lips should then be rubbed briskly with a towel to stimulate deeper breathing; the jaw should be pushed forward and the anaesthetic withheld until respiration is more regular.

For adults gas and ether or open ether is the proper anaesthetic.

Ingrowing Toenail.

If nitrous oxide and air be the anaesthetic selected, an assistant should be present to hold the leg above the ankle, or it must be tied down securely to the bed, because the extremities are extremely sensitive, and reflex movements of the feet and legs are certain to take place and cannot be controlled by this anaesthetic.

I am, however, of opinion that in order to complete the operation when undertaken at the patient's house, it is far more satisfactory to put the patient under the influence of the C_1E_2 mixture or open ether, when all need for undue haste is avoided, muscular flaccidity is obtained, and if the patient is prepared by four or five hours' abstinence from food, after-effects are very slight indeed.

Adenoids and Enlarged Tonsils.

It must be borne in mind that patients with these affections have more or less obstructed air passages, and that the operation and the bleeding it causes also cause intermittent respiratory obstruction.

Chloroform *plus* asphyxial factors of this severity is unnecessarily dangerous. The C_1E_2 mixture is, without doubt, the most appropriate anaesthetic, because it keeps the patient's colour pink, and maintains moderately deep breathing, a condition which allows of short intermittent spells of air limitation without much fear of depression. Dosage should proceed until the corneal reflex is definitely weak, then three or four respirations of air should be allowed before beginning the operation, so that it may be done during the *return* from the maximum dose, thereby retaining the coughing reflex to reject the blood from the throat.

It is wrong to anaesthetize small children in one room and then carry them into another room for operation. The movement lowers the blood pressure dangerously, and greatly increases the risks of the whole proceedings. Children are not dismayed by lying down upon a proper table in a warm room prepared for operation, but are only mildly interested in the novelty of its appearance. The

induction of anaesthesia in a child's iron cot with high barred sides is very difficult, and the child is most apt afterwards to associate its experiences with its own sleeping bed instead of with a table which has then been taken quite away.

The mothers of these children are frequently absurdly lacrymose, and unnerve the child by their presence at the beginning of affairs. The surgical nurse or doctor should therefore take them into the room and the mother should go downstairs until called for after all has been completed.

Sebaceous Cysts.

These cannot be completely removed under nitrous oxide gas owing to venous oozing obscuring the cyst wall, and the C_1E_2 mixture is the most satisfactory anaesthetic for the patient and operator. These cysts are not very sensitive unless inflamed, and there is no need for a very deep anaesthesia. Their position on the scalp is often somewhat inaccessible when the patient is lying down, and a table should be used instead of a bed, so that the head may be properly reached from its upper end. If the patient has to be laid partly on his face he should be anaesthetized lying on his side and then rolled into position, care being taken that the chest walls can freely expand in respiration.

Dislocations.

Patients meeting with an accident causing dislocation of a limb are unprepared by abstinence from food for an anaesthetic, and are not likely to take it well. A jaw gag must be at hand in case of semi-solid vomiting, and, whatever anaesthetic is used to make the patient unconscious, ether should afterwards be given to obtain muscular relaxation. A great many deaths have occurred under chloroform unwisely pushed for this purpose. C_1E_2 followed by ether or gas and ether are the most suitable and safe anaesthetics to employ.

Diagnostic Examinations.

Chloroform may be wisely administered for examinations, except in rectal cases, where dilatation of the sphincter ani causes reflex laryngeal spasm and ether should be used.

As chloroform requires some days for its complete elimination from the blood, it is wise not to employ it for a lengthened examination the day before a contemplated operation. After an interval of four days less after-effects result from the second anaesthetic.

Just as much careful watching of the patient must be practised as during a surgical operation; but two great factors, namely, the inhibitory reflex effects produced by surgical stimuli and haemorrhage, are absent.

Parturition.

One observation only is needed in conclusion. It should not be forgotten that all the conditions during confinements are extremely favourable for the administration of chloroform—the lateral posture, the higher blood pressure, the deeper respiration, all assist materially in the maintenance of circulatory equilibrium. The absence of difficulties and depressing effects from chloroform at confinements must not be looked for in other patients during other operations.

RESECTION OF THE TRACHEA FOR CICATRICIAL STENOSIS.*

By G. GREY TURNER, F.R.C.S.,

TANT S RGEON, ROYAL VICTORIA INFIRMARY, NEWCASTLE-UPON-TYNE.

So far as I can gather, it seems usual in cases such as that about to be described to attempt to dilate either through the larynx or a tracheotomy opening, but these methods are exceedingly tedious and admittedly unsatisfactory. In a *System of Practical Surgery*, by Professor E. von Bergmann, vol. xi, p. 220, it is stated that "extensive circular scar stenoses or complete occlusion form an indication, according to the experience of Kuster and v. Eiselsberg, for circular resection with subsequent suture of the trachea." In my case the trachea rapidly became obliterated by a considerable mass of new tissue, and it seemed to me in accordance with surgical principles to excise the involved segment when dealing with a non-collapsible tube of large calibre like the trachea. The occurrence of so serious a complication as secondary haemorrhage may appear as a fitting rebuke for adopting an audacious proceeding, but it appeals to me rather as a warning against the close suture of the external wound in cases where the area has become septic from the constant presence of a tracheotomy opening.

The patient was a man of 25, who inflicted the injury in a fit of depression following alcoholic excesses.

He was admitted to the infirmary on April 16th, 1908, in such a collapsed condition that his recovery was despaired of. There was a fearful gash in the neck almost completely severing the trachea, though the great vessels had escaped.

Next morning he was so much better that chloroform was administered and the injured parts thoroughly examined by the house-surgeon. It was then found that the trachea had been divided just below the cricoid cartilage, and that the sterno-mastoid and infra-hyoid muscles had been partially divided. The wound was thoroughly cleansed and the trachea drawn up to the cricoid with three catgut sutures, the muscles being separately repaired with catgut. Tracheotomy was not considered necessary, but the superficial wound was left partly open.

From the time the patient first began to talk the voice was characteristic of recurrent laryngeal paralysis, and this condition never altered. Unfortunately suppuration occurred, and the wound only healed slowly by granulation. The sutures holding up the trachea gave way, and it was found necessary to introduce a tracheotomy tube. As cicatrization proceeded all attempts to dispense with the tube gave rise to much distress, and it was obvious that the trachea was becoming stenosed.

On May 15th an anaesthetic was again administered, and just above the tracheotomy opening the trachea was found so much stenosed that it would only admit a fine probe through a channel at the summit of a funnel-shaped narrowing. It was found possible with a pair of sinus forceps, followed by artery forceps, to easily dilate the stricture, and an attempt was made to keep it patent by a silver tracheotomy tube pased upwards into the larynx through the top of a large rubber tracheotomy tube introduced in the usual way (in imitation of Störk's tracheal cannula and dilator). As might have been expected, this plan was not successful, and, in spite of all our efforts to keep the trachea open, it became necessary to interfere again, or let the case drift into one of permanent stenosis with its necessary tracheotomy.

On June 12th the last operation was performed, again under general anaesthesia. This time complete obliteration was found, the lumen of the trachea being filled by a mass of scar tissue; it was therefore decided to resect the involved portion. The cricoid and the upper part of the windpipe were accordingly thoroughly exposed through a vertical incision, and a complete segment of the trachea excised. The resulting gap was very wide, but the trachea was freed without fear until it could be easily approximated to the cricoid, to which it was fixed by several No. 1 chromic catgut stitches passed around the upper ring of the trachea and through the cricoid, care being taken to tie the knots on the outside. The posterior and lateral surfaces were brought into perfect apposition, but there was a little irregularity of the union in front. A vertical opening was made into the trachea about ½ in. below the line of suture for the introduction of a small silver tracheotomy tube. The skin incision was then carefully closed by silkworm stitches. The part removed consisted of a complete transverse section of the trachea with two rings, the lumen being completely obliterated by a mass of scar tissue.

For five days the patient went on very well, but there was then a little suppuration with rise of temperature, and the skin wound gave way. On the eighth day, without any warning, he had a sudden profuse haemorrhage. The bleeding clearly came from the left side of the wound from a recess by the side of the trachea, and, after resisting all the efforts of the house-surgeon, it stopped spontaneously. As the source of the haemorrhage was doubtful, and its spontaneous arrest probably only temporary, I thought it wiser to give an anaesthetic, and, if possible, deal directly with the bleeding point. As a matter of fact, I was only able to curette a small cavity, which I packed with gauze soaked in turpentine. As one or two of the sutures in the front part of the tracheal wound had given way, two silkworm stitches were introduced and subsequently removed.

After this the patient made a straightforward recovery and was soon able to leave the hospital, the wound healing completely in the sixth week following the resection operation. When shown at the meeting in December, 1908, he was very well and had no difficulty in breathing except on severe exertion or when suffering from cold. The scars in the neck were not very obvious, but on palpation the trachea was found to be a little narrowed from before backwards and this was well shown on *x*-ray examination.

Dr. S. S. Whillis kindly examined the larynx and reported paralysis of the left vocal cord, general hyperaemia of the laryngeal and tracheal mucous membranes, but no evidence of stenosis as far as could be seen.

* The case that forms the subject of this note was shown at a meeting of the Newcastle-upon-Tyne Clinical Society.

TREATMENT OF FACIAL PARALYSIS DUE TO DIVISION OF THE FACIAL NERVE IN THE MASTOID OPERATION.

BY F. MARSH, F.R.C.S.,
CONSULTING SURGEON, QUEEN'S HOSPITAL, BIRMINGHAM.

IN the JOURNAL of May 8th a case of anastomosis of the facial nerve in the aqueduct of Fallopius is described by Dr. F. Sydenham of Walsall. It may interest him and other surgeons to know that a procedure similar in detail has been employed by me in two cases.

CASE I.

Mr. P. H. was operated on in 1900. The facial nerve had been divided by a splinter of bone when "the bridge" was being cut away with a chisel. The division was not noticed at the time, but the paralysis was complete on recovery from anaesthesia. As this persisted, the wound was reopened a fortnight later. The facial nerve was seen to be completely divided, and the proximal end frayed and everted by the gauze packing. At the suggestion of my colleague, Mr. Jordan Lloyd, who was present at both operations, the proximal end was teased into its normal position—coming almost in contact with the distal end; two or three strands of fine chromic gut were placed round the nerve, the ends being inserted into the bony canal, and the parts protected for a short time by gutta-percha tissue in the way described by Dr. Sydenham. Gentle galvanism was subsequently employed; slight return of power commenced in six weeks, and complete recovery resulted.

The case, though not published, has been related to several of my colleagues in the Midlands.

CASE II.

Miss H. F., aged 26. The facial nerve was divided on January 14th, 1908, in clearing a cholesteatomatous mastoid which had been operated upon twice previously, the relation of the parts being much altered by bone absorption. The division was recognized at the time, and the nerve ends were carefully approximated and protected for a few days with gutta-percha tissue. The operation cavity became rapidly covered with epidermis from the meatal flaps, under hydrogen peroxide and spirit treatment. As no sign of regeneration appeared in a month (February 13th) it was decided to reopen the cavity and examine the nerve ends. It was not easy to define these again in the cicatrized tissue and to be certain that no union had taken place, indeed it seemed both to me and to Mr. Seymour Jones who assisted me that there was continuity of a few of the deeper fibres. The ends were readjusted, and a strand of fine chromic gut was with difficulty inserted in each of the aqueduct openings. The post-aural wound was closed, and the cavity rapidly healed without suppuration. Gentle galvanism was continued, but it was not until the end of June—four months later—that signs of power commenced in the mouth muscles; the improvement steadily extended to the other muscles, and the power has now (May 7th) returned to all except the corrugators of the brow.

In this case it is difficult to estimate the value of the second operation; it seems not improbable that if more patience had been exercised the first adjustment would have been all that was necessary.

It, however, showed that the operation is more difficult when the post-aural cavity is completely cicatrized than when it is in a recent post-operative condition.

The cases themselves show:

1. That if division of the facial nerve is recognized at the time of operation, careful adjustment in the manner indicated will probably result in restoration of function.
2. That if division has not been recognized, the wound should be reopened and the nerve ends adjusted at the earliest possible opportunity.
3. That if a careful adjustment has been made a second operation should not be undertaken within three or four months.
4. That this method of adjustment should be tried before anastomosis with the hypoglossal or spinal accessory nerves is attempted, the results of which are not always gratifying.

UNDER the will of the late Mr. Frederick Gorringe, the draper and silk mercer of Buckingham Palace Road, the Clapham and General Provident Dispensary receives a bequest of £1,000. On the death of the testator's wife £5,000 is to be paid to the Bolingbroke Hospital, and the residue of the estate after payment of other bequests divided in equal shares between some eight institutions. Among these are St. George's Hospital and Westminster Hospital; each, it is calculated, will ultimately benefit in this way to the extent of some £50,000.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

DISTRIBUTION OF BILHARZIOSIS ON THE VICTORIA NYANZA.

DURING a visit in January, 1909, to Usukuma on the Southern Shore of the Lake Victoria Nyanza, German East Africa, I was astonished to find at Nassa (a little place some 60 miles east of Mwanza, and on the southern shore of Speke Gulf) a very high proportion of the natives suffering from the symptoms of bilharziosis. I was only able to stay two days in that place, but of 156 patients whom I examined exactly half had the symptoms of bilharziosis of the bladder. Three of these chosen at random were asked to pass urine, and a drop of the urine (not centrifuged) showed in each case enormous numbers of typical ova. One of them was the local king or chief. The briefness of my visit prevented me from investigating the percentage of the general population so affected, nor was I able to investigate the presence or not of ova in the stools. The interest of the observation lies partly in the following facts:

1. The natives obtain their drinking water from the lake, and this lake is the source of the Nile, on the banks of which bilharziosis is endemic. The water is stored, as in my own neighbourhood, in earthenware jars of large size, which are seldom if ever cleaned. The natives likewise (or certain classes of them) do a good deal of wading in the water to fish, though this would not be true of the chief and upper classes.
2. On the northern shore of the lake bilharziosis is comparatively rare. I am told that in Entebbe bilharzia is occasionally found, especially in the stools. But in our hospital at Mengo (with an in-patient attendance of about 1,600 patients per annum, and an out-patient attendance of about 13,000 new cases every year) we have during the past thirteen years seen only two cases of bilharziosis, and they were probably not endemic. Mengo itself is only eight miles from the lake shore.

Mengo, April 6th. J. HOWARD COOK, M.S., M.B., F.R.C.S., D.T.M.H.

FATAL HAEMOPTYSIS IN AN INFANT.

THE patient in the following case, an infant aged 3 months, was the child of a puny, young, phthisical mother. It was stated to have kept in good health for four weeks after birth, and then commenced to have fever and cough. For nearly two months the fever never left the child, its cough was very frequent. When I saw it for the first time, a couple of days before its death, the cough was almost incessant. One evening the child was brought to my surgery in great haste, as it was supposed to have vomited blood. It was pulseless, and blood was oozing from its mouth and nose. The coat of the father, who had brought it in his lap, was saturated in front with blood. On inquiry I found that just half an hour before the child was brought to me it had a violent fit of coughing, and blood began to run from its mouth and nose. The haemorrhage proved fatal. That this infant had caught tuberculous infection from its mother and that the violent cough ruptured the pulmonary blood vessels and brought on the fatal issue is clear; but the extreme youth of the patient, which had barely completed the third month of its life, makes the case worth reporting.

A week after the baby's death the mother died also.

E. H. THOMAS, M.B., L.R.C.P. and S.Edin.

Dehra Dun, India.

FACIAL PARALYSIS FOLLOWING EMOTIONAL SHOCK.

MRS. B., aged 38 years, consulted me for complete facial paralysis of the left side. She gave the following history: On Monday morning she was in perfect health. At breakfast she opened the paper and was startled to find news of a terrible shipping disaster, the *Penguin*, a local steamer, had sunk causing a great loss of life. She says that while reading the account of the wreck, she felt a sensation of "clawing" in her left cheek. Two hours later the left side of the face was completely paralysed.

I saw her twenty-four hours later. On examination the whole side of the face was motionless, all the branches of

the nerve were involved, the sense of taste and of hearing being normal. There was no reaction to either galvanic or faradic currents. No reaction of degeneration was present.

The treatment was high-frequency currents, continuous current (anode placed behind the ear), and massage, potassium iodide being given internally.

Fifteen days later the patient wrinkled the forehead slightly, a few days after this the mouth could be lifted a little, and at the end of thirty days all the normal actions of the face could be performed.

I have never seen a case of facial paralysis from emotion, and I most carefully questioned the patient as to the possibility of having been in a draught or having had a blow, etc.

P. CLENNELL FENWICK, M.D.,
Surgeon to Christchurch Hospital, New Zealand.

Reports of Societies.

UNITED SERVICES MEDICAL SOCIETY.

Wednesday, May 19th, 1909.

Lieutenant-Colonel W. G. MACPHERSON in the Chair.

Antityphoid Inoculation.

MAJOR H. W. GRATTAN and Captain A. L. A. WEBB demonstrated the method of preparing antityphoid vaccine at the Royal Army Medical College. During the last twelve months they had prepared and issued 40,800 double doses for the use of the army both at home and abroad. The vaccine, they said, was prepared from a broth culture of the typhoid bacillus, some of the points on which they laid special stress being that the culture should not be overheated (a temperature over 53° C. had been found to have a deleterious effect on the immunizing properties of the vaccine), that the antiseptic (0.25 per cent. lysol) should not be added until the vaccine had cooled down, and that the vaccine should not be used later than three months from the date of manufacture. These conclusions had been reached by experimental work on the protective substances found in the blood of men and animals inoculated with vaccines prepared at different temperatures, and of different ages. They quoted the most recent statistics available, which had been compiled by Brevet-Lieutenant-Colonel W. B. Leishman, R.A.M.C., and published in the February number of the *Royal Army Medical Corps Journal*.

The total strength of the 16 units under observation was 12,083, and amongst the inoculated—5,473 in number—21 cases of enteric occurred with 2 deaths. The remaining 6,610 non-inoculated men served as a control, and amongst them occurred 187 cases of enteric with 26 deaths.

THE ROYAL SOCIETY.

Thursday, May 20th, 1909.

Sir ARCHIBALD GEIKIE, K.C.B., President, in the Chair.

The Urine in Diseases of the Pancreas.

DR. P. J. CAMMIDGE reported that in the course of a series of observations on the metabolic changes associated with diseases of the pancreas he had found that if the urine of a patient suffering from an inflammatory affection of the gland were boiled with hydrochloric acid, the excess neutralized with lead carbonate, and the freed glycuronic acid precipitated out with tribasic lead acetate, treatment of the filtrate with phenylhydrazin, after the excess of lead had been removed with sulphuretted hydrogen, yielded a crystalline product which varied in amount with the intensity and stage of the disease. Normal urines and specimens from patients suffering from diseases in which there was no reason to think that the pancreas was involved gave no reaction. Twenty-eight cases in which the urine had been examined during life were investigated *post mortem*, and the results of the urinary examination confirmed. The urine of three dogs with experimentally induced acute or chronic pancreatitis was found to give a characteristic reaction. A detailed examination of a large quantity of urine from each of eight patients giving a well-marked reaction showed that it was due to a sugar having the reactions of a pentose, and yielding an osazone with a melting point of 178° to 180° C. Attempts to isolate the mother substance were not successful; it would appear to be derived from the pancreas, and was probably set free as the result of degenerative changes in the gland, passing into the blood, and being excreted in the urine.

Incidence of Cancer in Mice.

Drs. E. F. BASHFORD and J. A. MURRAY (Imperial Cancer Research Fund) stated that the relative frequency of cancer at different age-periods in female mice had been determined on animals bred for the purpose, the ages, sex, and parentage being carefully recorded. The diagnoses had been made by combining clinical observation with microscopical examination and transplantation of the tumours, and with *post-mortem* examination of the animals. Following Jensen, they had demonstrated in 1903–4 that cancer could be transmitted artificially from one individual to another of the same species by the implantation and continued growth of living cancer cells, and had shown that this form of transmission was not responsible for the great frequency of the disease. Other authors had since described "epidemics" of cancer in animals, especially mice. In the course of a year 19 cases of cancer had been seen in the mice under observation. This aggregation of cases corresponded to the "epidemics" adduced as evidence that the disease was infective. The cases had been analysed with reference to the age at which the tumours were first observed. The liability to cancer at different age-periods was as follows:

	6–9 months.	–12 months.	–15 months.	–18 months.	–21 months.	–24 months and over.
Total ..	135	110	94	21	6	...
Cancer ...	3	4	7	3	2	...
Per cent..	2.2	3.5	7.4	14.2	33.3	...

The progressive increase shown in the table presented a remarkable parallel with the age-incidence of cancer in the human subject, and confirmed the earlier statements of the authors (*Proc. Roy. Soc.*, January, 1904, etc.) that in animals, whatever their length of life, the recorded frequency of cancer varied, as in man, with the opportunity for examining a sufficiently large number of adult and aged individuals. The observations also added a statistical confirmation to the results of the comparative histological and biological studies of the Imperial Cancer Research Fund, which had shown the close parallel, amounting in many particulars to complete identity, between malignant new growths in man and other vertebrates. They demonstrated that the law of the age incidence of the disease held for the shortest-lived mammals as for man. Since the facts agreed with the less perfect data for other vertebrates, the general application of the law of age-incidence was probable, and therefore any explanation of the etiology of cancer must accord with the circumstance that when considered *statistically* cancer was a function of age, and when considered *biologically* a function of senescence.

Volume of the Blood.

Drs. J. O. WAKELIN BARRATT and WARRINGTON YORKE (Liverpool) described a method of estimating the total volume of blood contained in the living body. The principle employed was that of injecting into the blood stream a known amount of dissolved haemoglobin, and then determining the degree of the resulting haemoglobinaemia. This enabled the volume of the blood plasma to be calculated, and, with the aid of a haemocrit determination of the composition, by volume, of the blood, the total amount of blood present in the living body was ascertained. The haemoglobin employed was obtained from the red blood cells of the subject of observation. No ill effect had been observed after injection of dissolved haemoglobin. The estimation of haemoglobin was generally made with von Fleischl's haemoglobinometer, the scale of the instrument having been previously standardized by means of solutions containing known amounts of red blood cells. When the depth of the natural colour of the blood plasma before injection was markedly increased, as sometimes happened,

it was difficult to obtain haemoglobinometer readings of the amount of dissolved haemoglobin present after injection. In such cases the blood plasma, suitably diluted, was matched, by means of a comparison spectroscope, with solutions containing known amounts of dissolved haemoglobin.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Friday, May 7th, 1909.

JOHN LENTAIGNE, P.R.C.S.I., President, in the Chair.

Bier's Hyperaemia Treatment.

MR. R. ATKINSON STONEY, in a paper on treatment by passive hyperaemia produced by means of elastic bandages and suction glasses in tuberculous disease, said that his experience had not been promising. He had, however, not dealt largely with cases of this order. Excessive hyperaemia should be avoided, and in applying glasses ordinary aseptic precautions should be observed. The glass should be of sufficient size to leave a margin of 1 in. or more around the inflamed part or opening, to prevent strangulation or compression of the lips of the opening. Pain should not be produced. And, especially where the cup was placed over a superficial bone or firm membrane, excessive pressure should not be used, for fear of sloughing of the parts. The PRESIDENT said he had been deterred from the use of the method by its unsatisfactory results in the hands of some surgeons, but Mr. Stoney had helped to explain some of those results. He had recently been converted to its use for boils, but he had seen a great number of cases of tuberculous disease which had deteriorated under the treatment, and in some cases he could not satisfy himself that the dissemination of the tuberculosis had not been in some way due to it. Mr. L. G. GUNN said he had tried the treatment in cases of knee and wrist trouble, but found it impossible to produce any degree of congestion without pain. He was therefore not surprised at getting no good results. He thought French and English people, and more particularly Irish people, probably felt pain more acutely than the Germans, which might explain the differences in results. Mr. W. I. DE C. WHEELER confessed the same experience as Mr. Gunn, but in cases such as gonorrhoeal rheumatism he did find some easing of pain, and apparently some improvement. Mr. PEARSON said that the use of the band would seem to lead naturally to the increase of pain, as it was chiefly a matter of tension, but the suction apparatus, by reducing atmospheric pressure, might produce an initial diminution of pain. Mr. STONEY, in reply, said the worst results had been got by Bier in the knee joint, for some reason which he could not explain. He did not suggest the treatment in any case where better results, or quicker equal results, could be obtained by operative means. It was in tuberculous cases that the greatest difficulty was found in producing the correct degree of hyperaemia. The question of tension was difficult to deal with. It was, however, easy to understand that pain, which might be due to irritation of the nerve terminals by toxins produced by organisms, might be relieved by the congestion causing a flow of blood and lymph and producing a dilution of the toxins.

Post-operative Tetanus.

Mr. GUNN having read a paper on post-operative tetanus, the PRESIDENT said he could imagine no more appalling catastrophe to happen a surgeon than to have a case, or series of cases, of post-operative tetanus. He could not help keeping to the belief that the catgut must have been responsible. It was curious that in every case in which the catastrophe had occurred catgut had been used. It would be important to know what methods of sterilization had been employed. He had himself been using the iodine catgut for some time, but if he was threatened by the terrible phantom of possible tetanus he would be inclined to give up catgut altogether. Dr. KATHERINE MAGUIRE said she had been in attendance on one of the cases mentioned by Mr. Gunn. It was not a case of hysterectomy alone, but was combined with ovarian tumour, and quantities of thick catgut had been used. She thought the case was probably hopeless from the first. She knew that the patient could not have contracted the sheep disease mentioned by Dr. Richardson in his paper, as the patient had come from a part of England in which it was absolutely unknown. The time of the dissolving of the catgut was the time of being infected, and that had made it impossible for her to exonerate the catgut. Mr. PEARSON recounted the clinical history of one of the cases alluded to by Mr. Gunn, in which the patient died about twenty-eight or thirty hours after the onset. Mr. BLAYNEY said it seemed difficult to get over the fact that in every single case catgut had been used. They knew the source of the catgut and the possibility of its being infected, and these made the conclusion as to its responsibility all the more probable. The extreme virulence of the cases seemed to be at variance with the results of the bacteriological examination. The conditions inside the body were not such as would be expected to favour the growth of the bacillus; in two of the cases there was no suppuration, and therefore no septic organism to prepare the way for the bacillus, and the tissues were well supplied with oxygen, which was also unfavourable to the bacillus. Mr. GUNN, in reply, said Dr. Richardson had made extensive inquiries as to the methods of sterilization employed, and had then come to the conclusion that there was no absolutely perfect method.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION.

Tuesday, May 25th, 1909.

Dr. NORMAN MOORE, Vice-President, in the chair.

Serum Treatment of Typhoid Fever.

PROFESSOR R. T. HEWLETT read a paper on the treatment of typhoid fever with an antiendotoxic serum. It was generally recognized that an antityphoid serum prepared by the injection of the horse with cultures of the typhoid bacillus was useless in the treatment of typhoid fever. An antiendotoxic serum had been made by the injection of the horse with typhoid cell juice. Such a serum had an active neutralizing power against both the typhoid endotoxin and the typhoid bacillus. The results of the use of this serum in 9 cases of typhoid fever were detailed. The impression which had been gained, so far, was that several cases were benefited, and that in 2 at least the disease was cut short by its use. The instillation of the endotoxin gave a reaction in some cases comparable with the Calmette reaction in tuberculosis.

Dr. E. W. GOODALL read a paper detailing the results of the treatment of 26 cases of typhoid fever with the same antiendotoxic serum in the Eastern Hospital, Homerton. In only 9 was there any reason to think that the injection of the serum had any beneficial effect. In the case that had the largest amount of serum injected no result was apparent. The conclusion was that it had appeared to do good in a few cases and deserved further trial. An ophthalmic reaction was obtained in a few cases of typhoid, but in 1 case of scarlet fever a marked reaction was given and none in other cases of scarlet fever. Thus a slight positive reaction could not be taken as diagnostic of typhoid fever.

Dr. BRUCE, of the Western Hospital, Fulham, also communicated notes of 5 cases of typhoid fever treated with the same antiendotoxic serum. His impression was that 2 at least of these were benefited by the injections.

Dr. HEWLETT, in reply to remarks, said that the effects of supersensitization were very manifest in some cases.

THE congress which met in Geneva last year to discuss the question of the suppression of frauds in food will be succeeded by a similar congress to be held in Paris during October of the present year. The congress is under the auspices of the Society of the White Cross of Geneva, which is presided over by M. C. H. Vuille. The General Secretary is M. Robert Fazy, 42, Rue du Rhône, Geneva. The principal object of the congress will be to define such methods as will prevent the fraudulent adulteration of food, but there will also be sections devoted to chemical products, pharmaceutical preparations, mineral waters, and similar substances. The congress will consist of two principal sections—technical and industrial. Any other information that may be desired can be obtained from Mr. Loudon M. Douglas, College of Agriculture, Edinburgh.

THE BIRTH OF MODERN SURGERY.

[WITH PORTRAIT OF LORD LISTER.]

IT is a striking proof of the modesty of the begetter of modern surgery that he has never gathered together the scattered papers and addresses in which the results of the labours pursued *ohne Hast aber ohne Rast* through his long working life were conveyed to the scientific world. Too much cannot be said in praise of the beautiful simplicity of character which has made Lord Lister content to leave his work to speak for itself, and to keep silence in the face of misrepresentation and wrong-headed opposition. But we cannot help thinking that much of this would have been prevented had he set his teaching as a light fixed before the eyes of all men. To those who had not the good fortune to have his teaching stamped ineffaceably on their minds by the living word of the master and by the sight of his conquests over difficulties with which surgery had before been unable to cope, his own accounts of his work had become virtually inaccessible. No better way of honouring the occasion of his completion of his eightieth year could therefore have been found than the collection of his writings which has now been issued from the Clarendon Press.* The illustrious author is to be congratulated on the noble form in which the record of his labours—so fruitful of good to his fellow-men—is now permanently enshrined. A debt of gratitude is due by all interested in the history of modern surgery to the distinguished committee—consisting of Sir Hector C. Cameron, Sir W. Watson Cheyne, Mr. Rickman J. Godlee, Dr. C. J. Martin, and Dr. Dawson Williams—which undertook the task of preparing the work for the press. Of these gentlemen three were intimately associated with Lord Lister in his surgical work. Sir Hector Cameron was his dresser, then his house-surgeon, and afterwards his colleague at Glasgow; Sir Watson Cheyne was his house-surgeon, first at Edinburgh and then at King's College, London, where later he was his colleague; Mr. Godlee, who is closely related to him, worked with him at Edinburgh. The Committee had the advantage of Lord Lister's help, and has done its work with a reverent care worthy of the object on which it has been bestowed. The introduction which they have contributed is a masterly summary of Lister's work in which the sequence and relation of his varied researches are clearly pointed out. It is invaluable to the earnest student as a guide to the essential points of his teaching. Another useful help is a very copious index.

The writings are arranged under the four main heads of physiology, pathology and bacteriology, the antiseptic system, and general surgery. Some special addresses and lectures, which it would have been difficult to classify under any one of these headings, are placed in a fifth part at the end of the second volume. The papers in each part are arranged in chronological order, and the reader is thus enabled to follow the evolution of the doctrine which wrought a revolution more directly fruitful of good to mankind than any political upheaval or new invention of which there is record in human history. The plan of the work necessarily entails a good deal of repetition; but new ideas do not often find ready acceptance among the mass of men, and Lister had to preach his new surgical gospel to many deaf ears, and to not a few positive unbelievers, before it was received as the guiding principle of surgical practice. As late as in 1883 we find him thanking an audience for their cheers, and saying that there was a time when such remarks might have met with a different reception. A few years before he had said that it seemed to be difficult for him to write the English language so as to make his meaning intelligible, so gross were th misconceptions of his ideas.

A complete analysis of the work before us would be impossible within the space at our disposal; this is not necessary, however, as a full account of the birth and growth of what may conveniently be called Listerism was given in a special number of the BRITISH MEDICAL JOURNAL of December 13th, 1902, on the occasion of the jubilee of the great surgeon's entrance into the medical profession. A rapid survey of the contents of the two large volumes before us will suffice to give a notion of the ground covered in them.

Lister's first steps in scientific research were in the domain of physiology. This was a natural result of the influence of Sharpey. Another teacher from whom he learnt much that was to be of the greatest use to him in his life work was Graham, the Professor of Chemistry at University College. From these men and from his father, Joseph Jackson Lister, who discovered the law of the aplanatic foci, and who was described as "the pillar and source of all the microscopy of the age," the future reformer of surgery got a training in scientific methods such as fell to the lot of few students of his day. It is not, perhaps, too much to say that without the knowledge of physiology and chemistry and the mastery of the use of the microscope with which he started he would never have been able to build his system on the solid foundation which has made it, however subject to modifications in details, in its essence a truth that cannot be shaken.

His early papers on the contractile tissue of the iris, the muscular tissue of the skin, the minute structure of the involuntary muscular fibre, the flow of the lacteal fluid in the mesentery of the mouse, the influence of the nervous system in regulating the contractions of the arteries, all give evidence, not only of accurate observation, but of determination to see things through his own eyes. His studies on the causes concerned in producing the concentration and diffusion of the pigment in the skin of the frog under varying conditions show great ingenuity in experiment and acuteness of reasoning. The effects on these processes of the application of irritants to the skin and the relation of contraction and relaxation of the blood vessels to the nervous system threw a light on the nature of inflammation which was to guide him in subsequent investigations. A cognate line of research was pursued with regard to the functions of the visceral nerves, with special reference to their inhibitory action. Lister devoted much attention to the coagulation of the blood, especially to the question of the relation between that phenomenon and the condition of the walls of the blood vessels. These early researches display the resourcefulness in experiment the conscientious accuracy in the observation of facts and the caution in inference which mark all his work. He cleared the ground of much positive error, and gathered a large amount of sound material for the solution of this vital problem which was, and must continue to be, of incalculable use to those who came after. His study on the effects of irritants on the web of the frog's foot gave him the key to the mechanism of inflammation in the early stages of the process. He was the first who accurately described the phenomena of stasis of the blood, and the vascular reaction, immediate and later, which followed the application of irritants. He showed that the effects produced upon the circulation

* *The Collected Papers of Joseph, Baron Lister, Member of the Order of Merit, Fellow and Sometime President of the Royal Society, Knight Grand Cross of the Danish Order of the Danebrog, Knight of the Prussian Ordre pour le Mérite, Associé Etranger de l'Institut de France, etc.* In two volumes, pp. 429 and pp. 589. Price £2 2s. net. Oxford: At the Clarendon Press. 1909.

by the application of an irritant are twofold—namely, dilatation of the arteries, a purely functional phenomenon developed indirectly through the medium of the nervous system, not limited to the part acted on by the irritant, but implicating a surrounding area of greater or less extent; and alteration of the tissues from the direct action of the irritant, as a result of which the blood in their vicinity loses the properties which characterize it while within a healthy part, and assumes those which it exhibits when removed from the body and placed in contact with ordinary solid matter. He showed further, by experiments on amputated limbs, that the tissues possess, independently of the central organs of the nervous system, or of the circulation, or even of the presence of blood within the tissues, an intrinsic power of recovery from irritation when it has not been carried beyond a certain point. He also pointed out that it was necessary to draw a broad line of demarcation between inflammation set up by direct irritation, and that which is produced indirectly through the medium of the nervous system, "whether in the immediate vicinity of a source of irritation, as around a tight stitch in the skin or a thorn in the finger, or at a distance from the disturbing cause, as when the kidneys are affected in consequence of the passing of a bougie, or the lungs through exposure of the feet to cold."

His final conclusion was that his experiments had established the fundamental principle, that "whenever the disturbance of the circulation which is truly characteristic of inflammation exists in any degree, the tissues of the affected part have experienced to a proportionate extent a temporary impairment of functional activity or vital energy."

This paper was published in 1857, when Lister was Lecturer in the Extra-mural School and Assistant Surgeon to the Royal Infirmary.* In 1860 he was appointed Professor of Surgery in the University of Glasgow, with charge of wards in the Royal Infirmary of that city. At that time inflammation and suppuration were universally regarded as natural processes in wounds by surgeons who directed their efforts, by means of poultices and other applications, to helping the formation of what was called "laudable" pus. Septic disease was everywhere rife and was the mere despair of surgery. Sir Hector Cameron, who worked under Lord Lister when he made his first attempts in the direction of antisepsis, describing the state of things at that time, says:

> Every wound discharged pus freely, and putrefactive changes occurred in the discharges of all, producing in the atmosphere of every ward, no matter how well ventilated, a fetid, sickening odour, which tried the student on his first introduction to surgical work just as much as the unaccustomed sights of the operating theatre. It is hardly necessary to add that fatal wound diseases and complications were never absent at any time from the hospitals of that day.

It is worth while to point out that, according to Sir Hector Cameron,

> Lister soon began to enjoin on all persons in his clinic the practice of scrupulous cleanliness, which was at that time by no means always a characteristic of surgical practice. The washing of hands was insisted on after dressing each individual case, and large piles of clean towels stood on the tables of his wards for the use of his dressers and nurses.

Lister's work on inflammation, valuable as it was, did not lead him directly to his great discovery. But, unlike the surgeons of that day, he was not content to accept inflammation and suppuration as a necessary part of the process of healing. He believed that the natural course of events was that a wound should heal, like a simple fracture or other subcutaneous injury, without inflammation, suppuration, or septic infection. He recognized that the source of the mischief in wounds was putrefaction, and that the prevention of this should be the aim of the surgeon. The idea was in his mind at the very beginning of his career when he was Erichsen's house-surgeon in University College Hospital. The accepted teaching of the day, that putrefaction was due to the action of the air, particularly of the oxygen, on the organic fluids in wounds, did not satisfy him, and in the various methods of dressing adopted by him he never made any attempt to exclude that constituent of the atmosphere. As has been said, he insisted on rigorous cleanliness, but his wards were so insanitary that neither this nor frequent changes of dressing, nor careful drainage, nor free washing with warm water and Condy's fluid, availed to check the prevalence of pyaemia, erysipelas, and hospital gangrene. Pyaemia is now little more than a memory to those who have witnessed the gradual diffusion of Lister's teaching. As Sir Victor Horsley said before the Royal Commission on Vivisection, any one who should be asked now to write an article on pyaemia in a dictionary of surgery could not do it, for the disease has ceased to be. The same thing may be said of hospital gangrene. What that fearful scourge was may be learnt from John Bell, who, in his *Principles of Surgery* (1801), says:

> When it rages in a great hospital it is like a plague; few who are seized with it can escape. There is no hospital, however small, airy, or well regulated, where this epidemic ulcer is not to be found at times; and then no operation dare be performed! Every cure stands still! Every wound becomes a sore, and every sore is apt to run into gangrene; but in great hospitals especially it prevails at all times, and is a real gangrene. It has been named the Hospital Gangrene; and such were its ravages in the Hôtel Dieu of Paris (that great storehouse of corruption and disease) that the surgeons did not dare to call it by its true name; they called it the rottenness, foulness, sloughing of the sore! the word, hospital gangrene, they durst not pronounce: for it sounded like a death-bell; at the hearing of that ominous word, the patients gave themselves up for lost. In the Hôtel Dieu this gangrene raged without intermission for two hundred years, till, of late, under the new government of France, the hospital has been reformed. "A young surgeon (says an ancient French author) who is bred in the Hôtel Dieu, may learn the various forms of incisions, operations too, and the manner of dressing wounds; but the way of curing wounds he cannot learn. Every patient he takes in hand (do what he will) must die of gangrene."

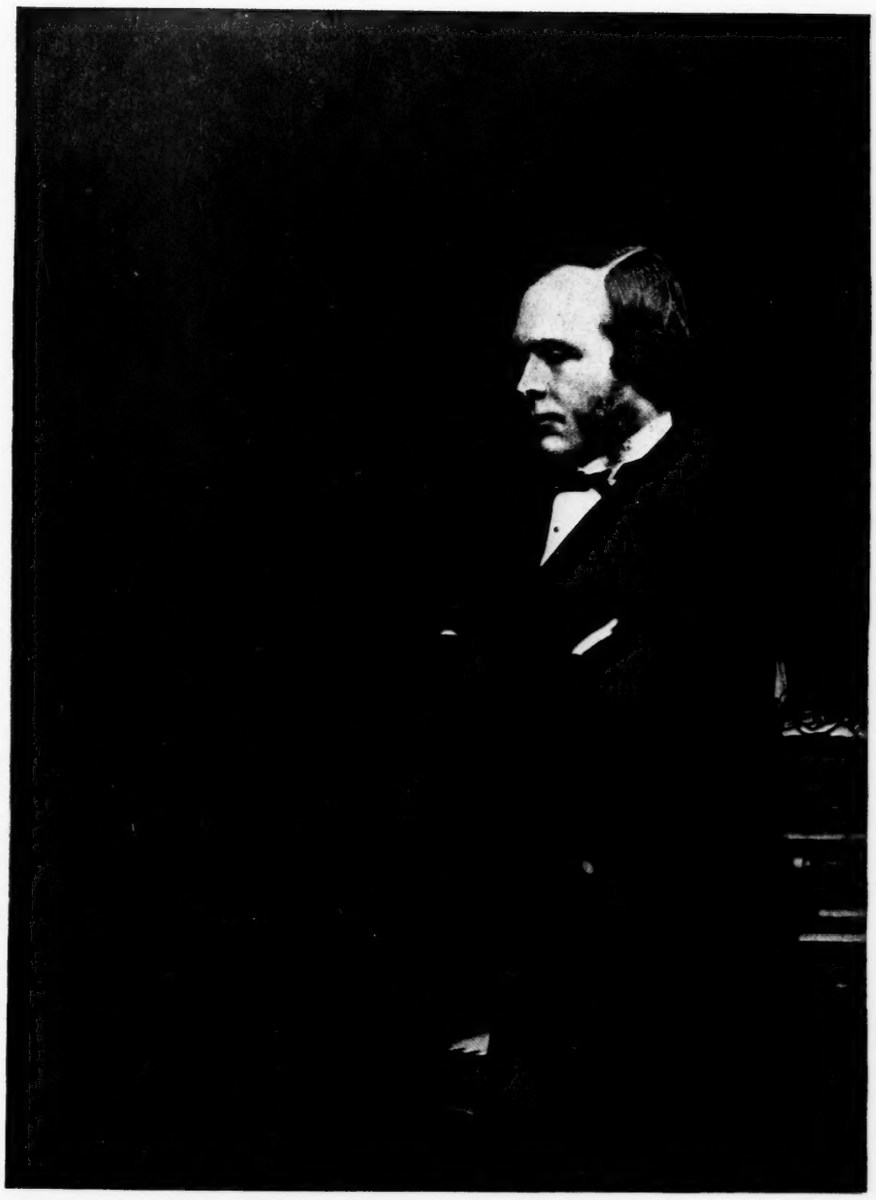
What, then, says the same author, speaking of the treatment of hospital gangrene, is the surgeon to do?

> Is he to try experiments with ointments and plasters while men are dying around him? Is he to expend butts of wine, contending, as it were, against the elements? No! Let him bear this always in mind, that no dressings have ever been found to stop this ulcer; that no quantities of wine or bark which a man can bear have ever retarded this gangrene; let him bear in mind that this is a hospital disease, that without the circle of the infected walls the men are safe; let him, therefore, hurry them out from this house of death; let him change the wards, let him take possession of some empty house, and so carry his patients into good air; let him lay them in a schoolroom, a church, a dunghill, or in a stable (like Paree's (*sic*) gangrened soldier); let him carry them anywhere but to their graves.

These scourges were so prevalent in the Glasgow Royal Infirmary that Lister says he felt ashamed, when recording the results of his practice, to have to allude so often to hospital gangrene and pyaemia, and he came to welcome simple fractures, though of little interest either for himself or the students, because their presence diminished the proportion of open sores among the patients. In other hospitals both in this country and abroad, the state of things was just as bad.

Then came the discoveries of Pasteur which revealed the cause of putrefactive fermentation to be the development of living organisms in the dust of the atmosphere. Lister forthwith applied the new doctrine to the treatment of wounds. By his conviction that the ideal to be aimed at was that a wound should heal like a subcutaneous injury he was led to apply it first in the treatment of compound fracture. The effect was immediate and striking. Not only did repair occur without systemic disturbance, but primary amputation, which before was almost the rule in bad cases of compound fracture, became almost a thing of the past, and not only innumerable limbs, but a vast number of lives were saved. He observed that the crust formed by the carbolic acid applied as a dressing and the blood became organized into living tissue, and that dead bone, instead of being exfoliated, was absorbed. From compound fracture he extended his treatment to psoas abscess, and gradually to wounds of all kinds. Although at a shallow depth under his wards were found a multitude of putrefying bodies of people who had died of cholera in 1849, and who had been buried in pits, he was able to report to the British Medical Association in 1867 that during the previous nine months not a single case of pyaemia, erysipelas, or hospital gangrene had occurred in

* The portrait reproduced in this issue, which forms the frontispiece of the first volume of the collected papers, is from a photograph taken in 1856.



Lister

his wards. How had this miracle been wrought? It could not be ascribed to mere cleanliness, though that was most strictly enforced; the influence of sanitation was absolutely excluded by the existence of the sources of putrefaction in the near neighbourhood of the wards. This very fact, indeed, formed an *experimentum crucis* that proved that the change was due to the adoption of measures which killed the invisible agents which produced septic disease.

It is unnecessary here to tell, even cursorily, the history of the introduction and development of the antiseptic system. It is enough to say that Lister, taking Pasteur as his guide, studied for himself with characteristic thoroughness the action of micro-organisms in producing putrefactive fermentation in organic fluids and the methods of preventing their development. He then with infinite patience tried how the new principle could most effectively be applied to the treatment of wounds. His early methods were crude and cumbrous, and he gave nearly the whole of his professional life to perfecting them.

Although carbolic acid had previously been used in a casual way by some surgeons as dressing, Lister was the first to use it systematically for the prevention of putrefaction in wounds. His attention was directed to it by experiments made at Carlisle on the disinfection of sewage with German creosote in which crude carbolic acid is the active constituent. But, successful as he found it for his purpose, he was careful to warn surgeons that it was not in itself a specific; that the antiseptic system did not consist in the mere use of an antiseptic, however potent, but in "such management of the case as shall effectually prevent the occurrence of putrefaction in the part concerned"; and that the treatment must be based on the germ theory of putrefaction. He insisted that his good results were not due to his personal care, but to the principle on which he worked. To the pains which he took to perfect his machinery, his labours in the improvement of the catgut ligature and dressings, which are related at length in these volumes, and his painstaking and unprejudiced trials of every substance that offered any promise of keeping wounds sweet without causing irritation, bear eloquent witness. We see him ceaselessly striving after simplification of dressings without sacrifice of efficiency.

It may not be superfluous here to point out that the carbolic acid spray is not, as has been imagined by some, the essence of Listerism. The spray was only an incident in the evolution of the antiseptic system; it was used for a few years and then discarded by Lister, who in 1890 frankly declared that he was ashamed he had ever recommended its use. If there is one feature in Lord Lister's character that strikes the reader of these volumes more than another, it is the open-mindedness with which he has tried everything that seemed likely to be of service, and his readiness to confess mistakes.

Listerism, it must be repeated, is not a system of dressing, but a principle. That principle is the exclusion from the wound of all agencies which have the power of causing putrefaction. So far from the aseptic system being, as is still said by some, the negation of antisepsis, it is the logical outcome of the principle on which the antiseptic system was based. The success claimed by certain surgeons who perform abdominal operations without antiseptic means has been, as Lister says, a stumbling-block to some. But, as he pointed out, these surgeons are careful to purify their sponges and wash out the peritoneum so as to clear it of the residual clots in which lies the risk of sepsis. We have seen that Lister himself, before he began his antiseptic work, insisted on scrupulous cleanliness. This in itself was a novelty in surgical practice. Did not Sir Astley Cooper, after removing a tumour from the scalp of George IV, and being in an agony of fear of the supervention of erysipelas, incur the King's displeasure by appearing before him with his wristbands and his hands stained with the blood of a patient on whom he had operated just before? Years after the Listerian doctrine had begun to permeate the mind of the profession we remember a famous surgeon habitually operating in a coat which a decent butcher would now disdain to use, and another who went through his wards handling all manner of wounds, opening abscesses, and doing all his work without ever going through the ceremony of washing his hands. If such things are almost unthinkable nowadays, that is due to the teaching of Lister.

Less than twenty-five years ago we heard the late Sir John Erichsen publicly state that operative surgery had then reached its final development. There were, he said, three parts of the body into which the surgeon's knife could never penetrate; these were the brain, the chest, and the abdominal cavity. Long ago all these regions have been brought within the range of surgery. This, too, we owe to Lister. The painlessness of wounds is another thing for which mankind has to thank him. When Huxley visited the Edinburgh Royal Infirmary, he summed up his impressions as follows: "What amazes me, Mr. Lister, is the painlessness of your wounds. You have not only banished those awful scourges which used to affect our wards, but you have abolished the pain and suffering associated with wounds and surgery." This leads us to insist on the fact that Lister's beneficent work could not, as he himself declared before the Royal Commission on Vivisection in 1876, have been done without the light and guidance derived from experiments on living animals. That fact alone is a complete justification of vivisection.

Lister's work has by no means been confined to the establishment of the great principle with which his name will always remain associated. In pathology and bacteriology he made valuable additions to knowledge. In the province of surgery his writings include masterly essays on amputation, on excision of the wrist, on the wiring of fractured patella, on anaesthesia, in which he always took a special interest, and many other things. Years before the introduction of Esmarch's bandage he produced bloodlessness in limbs on which he was to operate by elevating them and applying a tourniquet. In 1870 he stated that for some years he had been in the habit, after removal of the breast for scirrhus, of clearing out the axillary glands after division of both pectoral muscles. The modern methods of treatment of spinal abscesses and diseased joints, of ununited or malunited fractures, and other operative procedures, have to a large extent been directly initiated by Lister. In many other directions he might have claimed, had he cared merely for fame, to be the pioneer. Of the procedures to which his principle finds ever new applications, it is needless to speak. The influence of his teaching is felt through the whole domain of surgery, and will continue to make possible its expansion to an extent undreamt of even now.

In the third Huxley Lecture delivered before the Medical School of Charing Cross Hospital on October 2nd, 1900, which is republished in the second volume, Lord Lister himself gives a most interesting summary of his work, from the time of his researches in physiology to his final victory over the hospital scourges which so often brought the work of the most skilful surgeons to nought. He worked with a first-rate microscope which the labours of his father had placed in the hands of scientific men. While he was still house-surgeon under Erichsen he made original investigations on pathology.

It was by Sharpey's advice that he went to Edinburgh—a visit which was to have such a lasting influence on his after-life. He was fascinated by the prominence given by Syme to the pathological side of surgery, and he was struck by the superiority of the treatment of recent wounds which he witnessed in that great surgeon's wards over the "water dressing" used at University College Hospital in accordance with the teaching of Robert Liston, who introduced it in place of what he called "filthy unguents." He married Syme's daughter, and a graceful tribute is paid in the introduction to the help which Lady Lister throughout her life gave him in his work.

The work here imperfectly reviewed shows the greatness not only of Lord Lister's intellectual achievements, but of his character. It is a record of patient labour, of self-sacrificing devotion to duty and of absolute honesty of purpose which has scarcely a parallel in human history. No man that ever lived has done so much for the relief of physical suffering. He has had the rare good fortune to live to see his labours bearing good fruit all over the world. He has received awards and distinctions such as fall to the lot of few, but those who know him best will readily believe that no dignities or honours can in his eyes compare with the consciousness that he has deserved well of his fellow men. His life may be summed up in the words, *Pertransiit benefaciendo et sanando.*

Reviews.

OBESITY, GOUT, DIABETES.

We have received the seventh and eighth portions of Professor VON NOORDEN'S collected clinical essays, which deal with the metabolism of fasting, with overfeeding and its converse the treatment of obesity, and with gout.[1] The first lecture treats of fasting, a subject which is well worthy of careful study, as its phenomena are not as well known as they should be, and this ignorance has led to mistakes; for example, the presence of acetone in the urine is normal in fasting, while the diminution of chlorides noted in many diseases has been simply due to the use of milk diet. Partial fasting is extremely common in disease, and may be voluntary or involuntary, and is a valuable means of treatment in certain conditions, for instance, in nervous anorexia, where complete abstinence from food for a few days is an effectual way of restoring the appetite. Fasting diminishes thirst; professional fasters drink only from 400 to 500 c.cm. of water daily (12 oz. to 15 oz.), the loss of weight during fasting is not constant, and this may be due to the introduction or retention of water. Fasting, as a rule, proves fatal when 35 to 40 per cent. of the body weight has been lost, but in certain chronic diseases the diminution may reach 40 or even 50 per cent., as in the case of a lady aged 40, who weighed 140 kg. (20 st.), but reduced herself by diet to 11 st. 6 lb., when she developed pulmonary phthisis and died in six months, weighing at the time of her death only 46 kg. (6 st. 8 lb.)! In the second lecture he discusses the cures by overfeeding with which we generally associate the names of Weir Mitchell and Playfair. He gives useful tables of diets calculated to allow an excess of about 1,000 calories over that required for the patient at rest. The result of over-feeding is only to fatten the patient, and does not increase muscle so long as the patient is kept in bed. Neither can massage effect this, but if judicious exercise is combined with over-feeding, then muscular development will take place. He strongly approves of putting the patients to lie out-of-doors instead of shutting them up in a room; and as soon as they are able to leave their beds they should begin to walk uphill or cycle or practise regulated gymnastics. Baths and other hydropathic means are helpful, but he protests against the exaggerated value attached in Germany to drugs, "where a cacodylate injection is regarded as of higher value than a beefsteak." The third lecture treats of obesity. He uses systematic diets containing only from 2,000 to 1,000 total calories. The amount of water drunk is not in all cases to be limited, but "by this means polyphagia may be inhibited." Treatment must be checked by the results of systematic weighing and measuring. He attaches importance to muscular exercise by hill-climbing, cycling, tennis, fencing, swimming, or gymnastics, but he does not think riding of much value—an opinion contrary to the universal experience of all nations. Mineral waters may help with regard to complications, but otherwise are "of no more value than a drop of water on a hot stone." Sweating may remove water from the body, but CO_2 baths are useless and are dangerous if the blood pressure is raised. In the last-named condition he prefers to begin treatment by bleeding the patient. The value of cold douching and of thyroid feeding are recognized. The last lecture is devoted to gout, which is remarkably infrequent in Vienna as compared with Frankfort, where Professor von Noorden practised until three years ago. He holds to the belief that the retention of uric acid is the characteristic of gout, and in order to determine the gouty nature of doubtful affections of joints or nerves he estimates the retention of uric acid by first putting the patient upon a purin-free diet and observing the amount of uric acid still excreted after three or four days, which is what he calls the endogenous uric acid; a definite allowance of meat is then added to the diet, and the result noted; in gouty persons the uric acid is not increased, in others the addition is followed by a rise in the uric acid excretion. Strict diet for gouty persons should consist of milk, eggs, and vegetables, but purin containing foods may be added to the extent tolerated, given in carefully measured quantities, as we allow carbohydrates to a diabetic. Alcohol is held to be always injurious to gouty persons. Mineral waters are more useful in uric acid lithiasis than in gout; thyminic acid is valuable as a solvent, but should be used in short courses lasting not longer than eight days. As will be seen the essays contain most interesting matter, but no very startling novelties.

[1] *Sammlung klinischer Abhandlungen ueber Pathologie und Therapie der Stoffwechsel- und Ernaehrungsstoerungen.* Herausgegeben von Professor Dr. Carl von Noorden. Hefte 7 and 8. Ueber die Behandlung einiger wichtigen Stoffwechselstörungen (Hungerzustand, Mastkuren, Entfettungskuren, Gicht.) Berlin: August Hirschwald. 1909. (Roy. 8vo, pp. 104. M. 2.80.)

We reviewed Dr. LORAND'S pamphlet on the rational treatment of diabetes[2] when the first edition was published (1903, vol. ii, p. 1468). He is a physician practising at Carlsbad, and the rational treatment he recommends consists in diet, mineral water, and organotherapy. He believes that not only the pancreas, but the thyroid and the pituitary body, are concerned in diabetes; he holds that there is an antagonism between the thyroid and the pancreas, and he alludes to the cases of diabetes associated with Graves's disease in support of his view that overaction of the thyroid may give rise to glycosuria. He thinks, further, that eating meat stimulates the thyroid, hence people predisposed to diabetes, and the children of diabetics especially, should eat meat sparingly. He tried to investigate this question by removing the thyroid glands from three dogs who had been depancreatized by Professor Minkowski, but they died so quickly that the conclusions were not certain, although the glycosuria seemed to disappear. He thinks that diabetes may arise spontaneously in persons who eat meat largely, and that it is a "poison" for diabetics. He goes so far as to say (p. 23):

> It is my conviction that it were better for a diabetic to observe no diet at all and to take plenty of carbohydrate food than to confine himself to a strict diet of albumen, fat, and green vegetables for a long period. It is probable that in the former case he would live longer. It is not to be doubted that the observance of such a strict diet, to the exclusion of small quantities of carbohydrates, hastens the development of acidosis and shortens the life of the diabetic.

He is also of opinion that when carbohydrates are taken they are better tolerated if no meat is eaten at the same time. He says:

> It is my firm conviction that severe diabetes does better on a milk and vegetable diet and lives longer than on meat diet (p. 24).

He consequently approves of van Noorden's oatmeal cure, yet, in spite of these paradoxical opinions, he insists upon the importance of not overlooking diabetes, and says that it is quite as important a disease as small-pox or tuberculosis, and that there ought to be municipal laboratories, where the urine of everybody could be compulsorily examined. He uses thyroid extract, or rather Kocher's thyraden and Moebius's antithyroidin, the former for severe and the latter for mild cases, and claims that he has cured a case of diabetic coma by the use of thyroid preparations. He thinks goat's milk, and especially that of goats from which the thyroid gland has been removed, best suited for the treatment of diabetes.

[2] *Die Rationelle Behandlung der Zuckerkrankheit.* Von Dr. A. Lorand. Berlin: August Hirschwald. 1909. (Med. 8vo, pp. 60. M. 1.60.)

THE UPPER AIR PASSAGES.

FIFTEEN years have elapsed since Dr. Moritz Schmidt published his well-known treatise on the diseases of the upper air passages. It was at once recognized not only as a thorough exposition of recent knowledge, but also as bearing the impress of the personality of its author, who took for his motto the words, *Aus der Praxis, für die Praxis*, and throughout the work emphasized the lessons of practical experience for future use in practice. It was his expressed wish that the present editor of the new edition, Professor EDMUND MEYER, should carry on the work on the same lines, but with a free hand as regards individual opinion. Dr. Meyer undertook the work with some reluctance, owing to the fact that in many important points, both practical and theoretical, he and Dr. Schmidt had not seen eye to eye. Maintaining the same form and system, he has produced a book of the greatest practical value and historic interest. In the world of laryngology and rhinology history has been making itself apace in the last decade, and a comprehensive work must needs be a

large one. Considerations of space have necessitated the omission of many references, but the use of bold type and the addition of a very full index render reference easy.

Dr. Schmidt did not live to see the completion of this edition,[3] which would doubtless have been recognized by him as a worthy exposition of modern knowledge and thought on the subjects to which he had devoted so much of his life's work. Knowledge, even of the anatomy of the upper respiratory passages, has been steadily advancing, and with it the means of effective treatment. The introduction of better means of illumination has greatly assisted diagnosis, and within recent years the method of direct examination of the larynx and trachea has begun to take shape and to rank among the feasible adjuncts to successful treatment in suitable cases. The constant liability of the nose and larynx to injury or infection from without calls for the oft-repeated warning as to the disadvantages and dangers of over-coddling. Such warnings too often fall upon deaf ears. The "comforter" and the habit of wrapping up the neck by both sexes is still the commonest cause of the "delicate throat."

The immense importance of accurate diagnosis of affections of deep-seated parts cannot be overrated, and even among experts unanimity as to actual conditions cannot always be arrived at. The introduction of the electric lamp into the hidden cavities of the air passages has already done much, and may yet do more, to clear up doubtful points. The latest forms of instrument for this purpose are clearly described and demonstrated.

The general consideration of the diseases of the upper air passages follows the lines adopted in the first edition. Acute and chronic inflammations are exhaustively described. New methods of treatment—as, for instance, the submucous injection of paraffin in cases of ozaena, to restore the internal constriction of the nasal passages, and vibratory massage within the nostril—are duly commented on and their relative values indicated. Affections of the naso-pharynx and tonsils are fully dealt with, and a description given of the special form of angina described by Vincent in 1898. The fusiform bacilli in association with spirilla, which he found in these cases, have been recognized by others, although many have failed to detect them. The accessory sinuses have been attacked by modern surgeons with ever-increasing boldness, and an account of all that has been achieved in this field of surgery and of the arguments for and against some of the most recent methods should be read by those who wish to preserve an open mind on the subject. Tubercle is an ever-present danger to the larynx, and the importance of its early recognition must always be emphasized. Even in the more advanced cases the former pessimistic views must now give place to a more hopeful outlook. The bolder use of endolaryngeal surgery and the occasional employment of laryngotomy have done much to relieve, if not to eradicate, the further progress of the disease. As in the case of tubercle, so also in the treatment of syphilis, lupus, diphtheria, and other less common infections, substantial advances have been made, and we cannot too warmly commend to the notice of all progressive workers in this department the admirable work in which the practical teaching of the late Professor M. Schmidt has been carried forward and amplified by his distinguished successor.

EXPERIMENTAL EMBRYOLOGY.

THE discovery of the causes which determine the specific form in the race and in the individual is a matter of intense interest to all biologists. Many methods have been tried by those who would solve the problem, and present-day biologists are attempting to discover the secret by means of experiments on living embryos. Experimental embryology has thus become a new branch of biological science, and Dr. JENKINSON'S monograph on the subject[4] is an excellently conceived and admirably executed attempt to place on record a summary of the more important work which has hitherto been done and the conclusions which may be deduced from it. The author describes in considerable detail the experiments which have been made upon cell division and cell growth—the effects of external factors, such as gravity, mechanical agitation, electricity, light, heat, atmospheric pressure, osmotic pressure, and the chemical composition of the media in which development occurs. The effect of internal factors forms the subject of another chapter; and the concluding section is devoted to Dreisch's theories of development, which are introduced apparently more with the hope that they may serve as working hypotheses than in the belief that they explain all the known facts. The story of the work which has been done is fascinating, and, as set forth by Dr. Jenkinson, well repays perusal, but when the last page is turned the reader will be convinced that the end of the subject is yet far away. There was a period when preformation gained universal belief. Then epigenesis held sway. Later came the mosaic theory of Roux and Weismann's elaborate conception of the capabilities of the constituents of the chromosomes; both the latter views involved the belief that every inheritable quality of the body has its own definite representative in the germ. Once again the pendulum is swinging, and, if we understand Dr. Jenkinson correctly, it is inclining towards the combination of preformation and epigenesis, for he appears willing to accept Dreisch's theory so far as it postulates a simple original organization of the germ, which, however, though it is "simple enough to allow of divisibility of the whole into totipotent parts," is still "complex enough to account for the limitation of the potentialities of these parts, which, sooner or later, inevitably ensues"; for the idea of complete morphological preformation *ab origine* Dr. Jenkinson would substitute "the successive preformation by the action of the parts on one another in the organs of each stage of the structures that are to be developed out of them in the next."

[3] *Die Krankheiten der Oberen Luftwege.* By Moritz Schmidt. Fourth edition, edited and enlarged by Professor Dr. Edmund Meyer, of Berlin. Berlin: Julius Sprenger. 1909. (Sup. roy. 8vo, pp. 782; with 180 figures in the text, a portrait, and 5 coloured plates. M. 22.)

[4] *Experimental Embryology.* By J. W. Jenkinson, M.A., D.Sc. Oxford: The Clarendon Press; and London: H. Frowde. 1909. (Demy 8vo, pp. 349, figures 167. 12s. 6d.)

HOLIDAY RESORTS.

WE have received a handbook published by the authority of the District Council of Cullen, which has of recent years become a favourite summer resort. Possibly many of our readers are not aware of the existence of this small town, which is situated on the Banffshire coast, and for the purpose of Parliamentary representation forms one of what are known as the Elgin District Burghs. Cullen is a town of about 2,000 inhabitants, largely composed of fisher people who reside almost exclusively in a part of the town by themselves. The chief attractions claimed by Cullen as a holiday resort are the combinations of sea and woodland; there is a fine open, sandy beach, with facilities for bathing, and a golf links with a course of eighteen holes. The surrounding country affords ample opportunities for pleasant cycling and walking tours; while for those who are not disposed for active exercise the grounds of Cullen House, the residence of the Dowager Countess of Seafield, are open to visitors several days in the week. Cullen may be confidently recommended as one of those places which have not yet succumbed to the conventional features of the modern watering place. It is a place where a hard-worked medical man may find a bracing and pleasant resting place after a heavy winter's work. Cullen is easily reached either from Aberdeen or Inverness. The small handbook is published by Doubleday and Co., 8, York Buildings, Adelphi, W.C. The passenger superintendent of the North of Scotland Railway—Mr. Deuchar—will give full particulars of route and also a list of lodgings.

Another handbook published by the same firm and also under the authority of the Burgh Council, refers to Kirkcudbright, which is situated at the other end of Scotland, on the banks of the Dee, the estuary of which stretches out into Kirkcudbright Bay. The situation of the town is beautiful; it is surrounded by finely wooded hills, and the climate is warm and soft. It has an ample supply of excellent water. Many places of interest abound in the neighbourhood, Lochfergus, St. Mary's Isle—scene of one of the exploits of Paul Jones. The hotel and house accommodation is good. There is a golf course of nine holes and a bowling green; boating may be had, and fishing in the neighbouring streams can be obtained by arrangement. Kirkcudbright is reached by the Glasgow and South-Western Railway, and for those coming from the South there is a connexion with the Midland Railway. Kirkcudbright should be a place well suited, on account of its balmy atmosphere, for elderly invalids who desire rest and quiet.

It may be objected, perhaps, that *Tourists' Guide to the Continent*[5] is somewhat of a misnomer for a book which merely relates to parts of Holland, Germany, Austria, Switzerland, and Scandinavia, but otherwise the conception of the volume issued by the Great Eastern Railway Company and edited by Mr. Percy Lindley is excellent. Its object is to show the places on the Continent which can readily be reached by the service of this company, and to indicate the facilities offered at each principal centre for exploring the country more or less in its immediate neighbourhood. An endeavour, moreover, has been made to pick out places which at present are little known to tourists. It is certainly true that the traveller who reaches the Continent at the Hook of Holland finds himself in touch with much more comfortable traffic arrangements than at many other ports; and this fact, apart from the clear letterpress and the excellent pictures in this guide, should be sufficient to lead many prospective travellers to choose the Great Eastern route. The volume concludes with a vocabulary of useful phrases in English, French, and German.

A publication of corresponding kind is the illustrated *Guide to the London and South-Western Railway*, but it is of a less ambitious character, inasmuch as it deals merely with places in England easily reached by this railway. Their attractive points are brought out briefly in the letterpress, and in addition there are ample lists of hotels, boarding houses, and apartments, with the prices charged, and a note as to their distances from the railway station and other particulars. A list of golf links also finds place. This guide can be obtained, we understand, free on application at any of the stations or agencies of this line, and should be useful to those with thoughts bent on a week-end or longer holiday.

To and Fro[6] is a publication which purports to save its purchaser time and money by showing him how to go from anywhere to anywhere in London. Directions for its use are supplied in English and several other languages. After studying these indiscriminately but steadily, we made several attempts to apply them, and finally concluded that this work was not likely to prove a serious rival to the local policeman as a guide and counsellor to the wayfarer, but that, on the other hand, it was worthy of consideration by those who find a Continental Bradshaw an attractive intellectual exercise. One of its features is a "Location Directory," which is apparently intended to be a guide to the principal houses of business, places of amusement, and the like. Included in it are two short lists of physicians and surgeons respectively. In neither case are the majority of them persons known, as far as we are aware, to any one but those in their immediate neighbourhood and their personal friends and patients. If the rest of the guidance as to principal places is of the same character, it is clear that the publication might be less useful than its compilers suppose. An intention is indicated to make this directory a monthly publication, but in humble imitation of its polyglot introductions we are disposed to say on this point, Wir wollen sehen! Nous verrons! Bakaloum! or in plain English, We shall see.

NOTES ON BOOKS.

The Family Doctor,[7] by Dr. EDMUND BARRETT, bears a kind of family resemblance to a publication very popular some thirty years ago, which purported to give information about everything in a series of alphabetical notes. In this case the information is confined to short explanations of terms common in connexion with the ills to which human flesh is subject. Possibly there may be some utility in a volume of this order, but the selection for notice of a certain number of proprietary articles tends to give a dubious character to the whole book.

The Socialist,[8] by GUY THORNE, seems to be a novel with a purpose, but whether intended to guide the reader to the conclusion that the claims of socialism are well founded or the reverse is not certain. The principal hero turns out, we understand, to be a churchman in disguise, and the principal heroine retires to assume the duties of maternity. It is on the whole well written.

[5] *Tourists' Guide to the Continent.* London: 30, Fleet Street. (Pp. 119. Price 6d.)
[6] *To and Fro.* Simpkin, Marshall. Price 6d.
[7] *The Family Doctor.* By Edmund Barrett, M.B., B.S.Durh. London: George Routledge and Sons. 1909. (Pp. 329.)
[8] London: Ward, Lock and Co. 1909. (Post 8vo, pp. 320. 6s.)

Thirty years ago Lieutenant-Colonel JOSHUA DUKE, then a comparatively young officer in the Indian Medical Service, wrote *Queries at a Mess Table*, and at the request of his publishers has now brought the book up to date.[9] In spite of its small compass it contrives to supply a good idea of the more important characteristics of the foodstuffs and liquids which commonly figure on regimental and club dinner tables all over the world, and may claim to be a sound guide to men who wish to steer between eating to live and living to eat. General hints on the preservation of health and activity are also given, and with one exception are of a very useful kind. The exception is the unqualified condemnation of belts and kummerbunds. In one form or another these are worn by the inhabitants of tropical and semi-tropical climates all over the world, and this is a strong argument in their favour. They are superfluous in Europeans, when custom or duty necessitates covering the body and limbs with several layers of clothing, but on other occasions one would have thought their utility beyond dispute. The wearer of a belt can safely clothe the rest of his body as lightly as he pleases or as decency permits.

[9] *Queries at a Mess Table: What shall I Eat? What shall I Drink?* Second edition. London, Calcutta, and Simla: Thacker and Co. 1908. (Fcap. 8vo, pp. 107. 1s. 6d.)

MOTOR CARS FOR MEDICAL MEN.

COST OF RUNNING.

DR. SAMUEL CRAWSHAW (Ashton-under-Lyne) sends the following notes on the actual cost of running a Ford 15-h.p. car for twelve months: The Ford is a car of American make, and mine was delivered to me on March 31st, 1908. Since then it has done all my work, and I have had about 1,500 miles of driving for pleasure in addition. I estimate the total mileage at 9,000; over half of this has actually been recorded and the other half carefully estimated. I have never once been stopped on the road for any mechanical trouble, and never turned out without getting home again on the car without the slightest delay, except when punctures have occurred. I selected the Ford car after very careful tests at the 1907 Olympia Show of it and six or eight other makes, and in my opinion it is one of the best designed and cheapest cars on the market for medical men. It is one of the most accessible cars—a very important matter—and contains many simple and novel features. I can crawl along on top speed at about 5 miles an hour, or go at any speed up to 35; and I can climb hills on top speed up to a gradient of 1 in 15.

Running Costs for Year ending March 30, 1909.

Petrol (519 galls.)	£27 10 0
Repairs and renewals	28 18 3
Tyres	15 9 10
Oil and grease	5 0 0
Sundries	3 5 0
	80 3 1

9,000 miles = 2.14d. per mile.

Fixed Charges for Year Ending March 30th, 1909.

Chauffeur	£76 14 0
Stable rent, coal and gas	10 3 0
Licence	2 2 0
Insurance	12 13 6
Depreciation at 25 per cent.	59 0 0
Loss of interest at 3 per cent.	7 0 0
	£167 12 6

9,000 miles = 4.47d. per mile.
Total cost per mile, 6.61d.

I have used 519 galls. of petrol, giving an average of 17.344 miles per gallon. On a pleasure run of about 70 miles I have on two occasions found the consumption to be 27½ and 28 miles per gall. respectively, but with the constant stopping, starting, and reversing, that working a practice entails, the petrol consumption rises very considerably.

Repairs to the extent of about £2 4s. have been necessitated by several slight accidents, and another item of £3 was occasioned by the breaking of a ball in one of the front wheel bearings, which, before we had noticed it, had cut up the cones and ball races and deeply scored the arm. The other items are due to various small breakages and cost of labour in repairs, adjustments, and overhauling. My first set of tyres (five in number) ran about 4,300 miles each. During the year I have had two new tyres and one new tube. The first set of tyres have been retreaded. I consider that I have quite 2,000 miles left in the tyres yet.

I have estimated depreciation at 25 per cent., but perhaps this is excessive, as the car would still be worth something at the end of four years.

In addition to these items I have recently spent a little on what should be regarded as capital account—namely, a single trembler coil, which is really a great advantage, and a Bowden extra air inlet valve, with which I hope to improve the petrol consumption.

DR. W. V. FURLONG (Dublin) writes: As many of the accounts of your correspondents regarding the cost of running, repairs, etc., of their motor cars are, from my experience, far too rosy, I give, for the benefit of my brother practitioners, my first year's working, ending to-day:

10-12-h.p. Siddeley, hood, screen, magneto, etc.				£375	0 0
Stepney wheel, extra lamps, and sundries				27	11 2
				£402	11 2
Repairs for year (not including those covered by insurance)	£11	0	11		
Tyres, tubes, and repairs to same ...	15	0	7		
Petrol (184 gallons)	9	16	5		
Lubrication	1	16	6		
Insurance	11	10	0		
Registration and licence	1	5	0		
	£50	9	5		
Miles travelled 2,460, or about 15 miles to the gallon. The car was on the road and in good working order 120 days during the twelve months.					
Coachman's wages	60	0	0		
Yearly cost, excluding garage	£110	9	5	and capital	£402 11 2

The Siddeley is a good strong car, but the time lost waiting for trivial repairs and in obtaining the correct parts wanted through the agents prevents a doctor from depending on a motor car unless he keeps horses as well, or a few other motors to be ready at hand. I probably have been particularly unfortunate, as my motor has only been able to do a third of my work for the year, nor can I get more than fifteen miles out of a gallon of petrol.

SOMERSET writes: I should be interested to learn what happens to the gallon and a half of oil and the pound of grease which "T. D. N." uses on a 10-12 Swift every week. From a year's experience of this excellent car I have found no need to use oil to this great extent. The engine lubrication is by a hand-pump on the dash, and the makers informed me that one charge every ten miles was sufficient, the pump delivering about 2 oz. of oil at each charge: with a mileage of 245, this accounts for 50 oz. a week. There are only seven grease cups on the car, and 1 oz. or so of grease will easily fill them, and it is only necessary to give each a turn daily to ensure proper lubrication. During the past twelve months my car has travelled 7,000 miles, and has used about 10 galls. of oil and 5 lb. of grease.

As to tyres, I have worn out two pairs of steel-studded covers on the back wheels, each lasting approximately 3,000 miles, and then being retreaded. One grooved front tyre lasted 4,500 before retreading; the other is still in use, and looks good for some little distance yet. It is interesting to note that the front cover which first failed had been run for a time with a detachable non-skid band, bearing out "Wiser's" contention that these diminish the life of the covers. At present I have grooved covers on all wheels, and fit a Parsons's chain when the roads are greasy. It is only fair to say that my car has a side-entrance body, with hood and screen, and must weigh, when loaded, fully a ton.

I am so satisfied with this particular make as being a first-class car at a reasonable price that, requiring a second vehicle, I have this week ordered a two-seater of the same power with dual ignition.

MEDICAL BAG ON MOTOR CYCLE.

J. D. asks hints as to the best way of carrying instruments, bottles, etc., on a motor cycle.

LITERARY NOTES.

A COMMITTEE has been formed at Athens for the publication of all the works of ancient Greek writers on medicine, both those which have already been issued and those which have never seen the light. The chairman of the committee is M. Konstantinos Kontos, professor of Greek literature in the University of Athens; the other members are Dr. Konstantinos Sameras, assistant professor of gynaecology in the university, and MM. Rossin and Charitonides, doctors of letters and professors of Greek literature at Athens.

Miss Gertrude Toynbee has published, through Mr. Henry J. Glaisher, a brief but charming account of the intellectual tastes and character of her father, the distinguished aural surgeon, Joseph Toynbee. He was fond of poetry; the elder Arnold, Dean Stanley, Frederick Robertson, of Brighton, and William Ellery Channing were all writers with whom he had much sympathy. As a young man he was deeply interested by Emerson. He watched with keen interest the progress of scientific thought. He had an ardent love of nature and enjoyed all kinds of scenery. He worked for the improvement of the physical and intellectual condition of the poor, and started a Samaritan fund for the provision of food for the indigent. He also helped to found the Metropolitan Association for improving the Dwellings of the Working Classes, and wrote leaflets for the instruction of the ignorant in matters pertaining to health. In other ways he was active in promoting the welfare of the poor. He was a lover of art and a collector of water colours. In summing up her father's character, Miss Toynbee says that its distinguishing feature was his personal magnetism. He drew all kinds of people to him by his sympathy, charm, and sincerity.

Messrs. Churchill will publish in a few days a new edition of *Minor Surgery and Bandaging*, revised by Mr. Bilton Pollard, Surgeon to University College Hospital. The first edition of this work, by Mr. Christopher Heath, was issued 48 years ago. The present (14th) edition has been enlarged by nearly a hundred pages, and contains many new figures, and a frontispiece of a surgeon in aseptic operating costume. They will also issue an *Atlas of Dental Extractions, with Notes on the Causes and Relief of Dental Pain*, by Mr. C. E. Wallis, Assistant Dental Surgeon, King's College Hospital. The text will be supplemented with a series of illustrative plates.

In an article by Dr. James J. Walsh, Dean and Professor of the History of Medicine and of Nervous Diseases at the Fordham University School of Medicine, New York, entitled "Old Documents in Medical Educational Practice," published in the *Dublin Journal of Medical Science* for December, 1908, it is shown that medical education in the Middle Ages was more advanced than is usually supposed. One of these documents is a bull of Pope John XXII founding a school of medicine in the University of Perugia; the other is a law issued for the two Sicilies by the Emperor Frederick II. Both serve to show that a high standard of knowledge was required of the physician, and that care was taken to enforce the proper course of study and to prevent unqualified persons from teaching or practising medicine. According to Pope John's bull, which is dated February 18th, 1321, students of medicine had to go through three years of preliminary studies before beginning the five years' medical training. The first professors were to be graduates of medicine from the Universities of Paris and Bologna, then looked upon as the leading medical schools; and they were to occupy all the masterships and professional chairs at the new university for four or five years, until some of their pupils should be qualified to take them. The right of conferring the licence to teach (the Doctorate) was given to the Bishops of Perugia. The candidate who sought the degree of doctor was presented to the Bishop or his representative, who thereupon appointed four examiners. It was enjoined that these examiners,

without any charge to the candidate and every difficulty being removed, should diligently endeavour that the candidate be examined in science, in eloquence, in his mode of lecturing and anything else which is required for promotion to the degree of doctor or master. With regard to those who are found worthy, their teachers should be further consulted privately, and any revelation of information obtained at such consultations as might redound to the disadvantage or injury of the consultors is strictly forbidden. If all is satisfactory, the candidates should be approved and admitted and the licence to teach granted. Those who are found unfit must not be admitted to the degree of doctor, all leniency or prejudice or favour being set aside.

The law of Frederick II regulating medical practice was issued about the year 1240, and deals with every detail of professional life. None could practise medicine

except such as have beforehand in our University of Salerno passed a public examination under a regular teacher of medicine and been given a certificate, not only by the professor of medicine, but also by one of our civil officials, which declares his trustworthiness of character and sufficiency of knowledge.

This certificate had to be presented to the Emperor or his representative by any one who wished to obtain a licence to practise; any infringement of this law was punishable by confiscation of goods and a year's imprisonment. Stringent rules were laid down as to the length of the medical curriculum and the subjects comprised therein. No student was allowed to study medicine unless he had spent three years in the study of logic, which at that date included practically all the subjects comprehended within the sphere of the arts department of a modern university.

Five years had to be spent in medicine, and the student was obliged by law to study surgery at the same time. No one might practise unless he had, after the expiration of the five years' course, "during a full year devoted himself to medical practice with the advice, and under the direction of, an experienced physician." Then, and only then, could the licence to practise be obtained. The law for surgeons was equally severe. No surgeon was allowed to practise without a written certificate

stating that he has spent at least a year at that part of medicine which is necessary as a guide to the practice of surgery, and that, above all, he has learned the anatomy of the human body at the medical school, and is fully equipped in this department of medicine, without which neither operations of any kind can be undertaken with success nor fractures be properly treated.

Professors in the medical schools were bound to teach both practical and theoretical medicine and to "devote themselves to the recognized books, those of Hippocrates as well as those of Galen," and no one might teach or lecture on medicine or surgery without previously having passed a searching examination in the presence of a professor of medicine and a Government official. Nor did the legislator forget the pharmacist. Two inspectors were appointed in each province of the kingdom to inspect all drugs and medicines, and to see that they were prepared according to law; no druggist was allowed to sell his goods until they had undergone this examination. In Salerno the inspectorship was limited to those who had taken their degrees as masters in physic; but besides these public inspectors every practising physician was bound by oath to report an apothecary who sold drugs "of less than normal strength." The greatest possible care was taken that the drugs should be pure, and the following regulation is said by Dr. Walsh to be the first law enforcing the purity of drugs:

Apothecaries must conduct their business with a certificate from a physician according to the regulations and on their own credit and responsibility, and they shall not be permitted to sell their products without having taken an oath that all their drugs have been prepared in the prescribed form, without any fraud. The apothecary may derive the following profits from his sales: Such extracts and simples as he need not keep in stock for more than a year, before they may be employed, may be charged for at the rate of 3 tarrenes [3s. 6d.] an ounce. Other medicines, however, which in consequence of the special conditions required for their preparation, or for any other reason, the apothecary has to have in stock for more than a year, he may charge for at the rate of 6 tarrenes an ounce. Stations for the preparation of medicines may not be located anywhere but only in certain communities in the kingdom as we prescribe below. We decree also that the growers of plants meant for medical purposes shall be bound by a solemn oath that they shall prepare their medicines conscientiously according to the rules of their art, and so far as it is humanly possible that they shall prepare them in the presence of the inspectors. Violations of this law shall be punished by the confiscation of their movable goods. If the inspectors, however, to whose fidelity to duty the keeping of the regulations is committed, should allow any fraud in the matters that are entrusted to them, they shall be condemned to punishment by death.

All business relations between doctor and apothecary were strictly forbidden, and no licensed physician was permitted to keep an apothecary's shop. The physician's fees were also regulated by law. He was obliged to treat the poor for nothing, but for other patients there was a fixed rate of payment:

A physician shall visit his patient at least twice a day, and at the wish of his patient once also at night, and shall charge him, in case the visit does not require him to go out of the village or beyond the walls of the city, not more than one-half tarrene in gold for each day's service (about 7d.). From a patient whom he visits outside of the village or the wall of the town, he has a right to demand for a day's service not more than 3 tarrenes, to which may be added, however, his expenses, provided that he does not demand more than 4 tarrenes altogether.

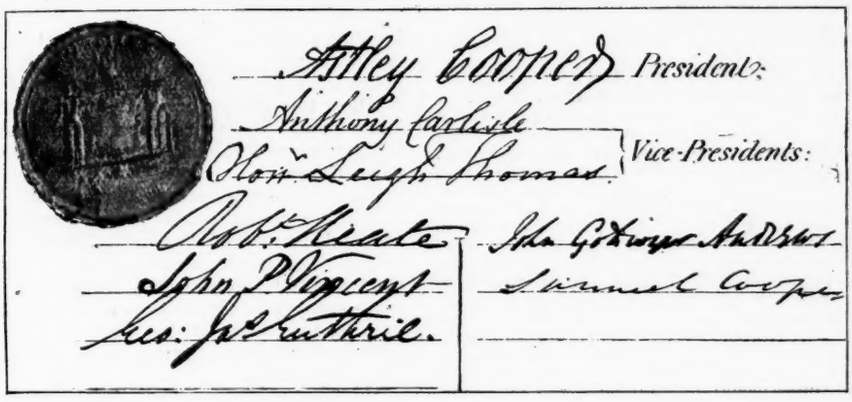
Such are the main points of what may be called the first Medical Act. It is a striking proof of the administrative genius of Frederick, who, occupied with wars and intrigues and all the business connected with his vast and troubled empire, yet understood the importance of medical science so well as to leave this proof of his interest in it. It is not so surprising to find Pope John manifesting an interest in medicine. Not only were the great medical schools of Bologna and Ferrara situated in the papal States, but the professorships in the papal medical school at Rome were held by famous men, such as Columbus, Eustachius, Varolius, Coesalpinus, Malpighi, and Lancisi. The list of the popes' private physicians includes the names of the most distinguished representatives of medical science of their day; we need only mention Richard the Englishman, Taddeo Alderotti, Simon Januensis, Arnold of Villanova, Guy of Montpelier, and Guy de Chauliac.

In a paper republished from the *Proceedings of the Society of Antiquaries of Scotland*, vol. xxxvii, there is a very interesting account by the late Dr. William W. Ireland of a visit, made by him in company with Mr. W. C. Maughen, to the island of Eileach-au-Naoimh, off the coast of Argyllshire. This island he held to be none other than the island of Hinba or Himba, so frequently mentioned by Adamnau in his life of Saint Columba. According to this authority the saint founded a monastery on this island, at the head of which he placed his maternal uncle Ernau, somewhere between A.D. 563 and 574. This monastery seems still to have existed when Adamnau was Abbot of Iona, A.D. 679–704; but about the beginning of the ninth century the monks were massacred or driven away by the Northmen, and there is no proof that they ever returned. It is true that Fordun, in his *Chronica gentis Scotorum*, written 1441–7, mentions that there was a sanctuary on the island of Eileach-au-Naoimh (which he calls Heland Leneow), but he does not say if it was inhabited. All trace of the island of Hinba seemed to be lost, for none of the Hebrides bears such a name, which is derived from the Gaelic "Imbach" or "Imbeh," signifying "a surrounding sea." But in 1824 Dr. Macculloch visited the Garvelloch Islands, and in Eileach-au-Naoimh, "the mounds of the saints," or "holy mounds," he discovered the remains of some very ancient religious buildings and monuments. The island was uninhabited, and the question arose whether it could be the lost Hinba. Skene believed that it was, and Dr. Ireland held the same view. He describes Eileach-au-Naoimh as a rocky islet about 1½ miles long, with ½ mile as its extreme breadth, and its highest peak, Dun Bhreanain, or St. Brandon's hill, about 270 ft. high. A column of rock, standing out on the southern shore, is called the Cranogg, or Columba's pulpit. The building supposed to be the ancient chapel stands on high ground, overlooking the sea. Though roofless its walls are entire, built of flat, wide stones laid one upon another without lime, and taken from the rocks around. There is a little splay window at the east end, and on the west side can be seen the traces of a square enclosure. A little way from the south side is an underground cell, with two stone shelves, probably used for storing the wine for the altar. The building known as the Kiln stands higher up the hillside, and is smaller than the chapel, with one end semicircular, and two-thirds of the interior taken up by a raised stone platform, with a hollow in the middle like that of a cauldron, and a flue below the pavement to let in air. Doubtless this building was used for drying corn. A small piece of level ground with a ruined wall, standing lower than the chapel, is supposed to be the site of the convent garden. Below this is the cemetery, which contains a number of headstones. There are no lettered inscriptions, but several rude carvings, and on one slab there is a Greek cross. A little away from the cemetery is a cairn, which tradition points out as the grave of St. Columba's mother. Another rude building stands east of the chapel, and nearer to the sea are two half-ruined cells, such as were used by the Celtic monks as hermitages. Each has its own entrance, and a channel for drainage, and there is a passage between the two. It is obvious, says Dr. Ireland, that these buildings are the remains of a monastic establishment, and they are so ancient as probably to be the ruins of the actual convent founded by St. Columba. The objection that the early Scottish churches and monasteries were built of wood does not hold good in this instance, for it is based upon a passage in Bede, who was not born till one hundred years after the foundation of Hinba; and even if wood were in general use for church buildings, it is not unreasonable to suppose that in such a place as Hinba, where wood was not attainable, the builders would take the materials provided by Nature, the stones.

Nova et Vetera.

AN OLD DIPLOMA.

IN the JOURNAL of September 26th, 1908, p. 953, there appeared an obituary of the late Dr. Charles Ray, who died on September 10th, then one of the oldest members of the Royal College of Surgeons. He had been a fellow student at St. Bartholomew's Hospital with Sir James Paget and Mr. Luther Holden, and had served as dresser under Sir William Lawrence. His diploma of membership bore the date December 13th, 1836, and the document is remarkable owing to the fact that all the signatories were at one time or another Presidents of the College. Through the courtesy of Mr. Herbert Sieveking, who gave us an opportunity of examining the diploma, we are enabled to reproduce the signatures. A sketch of each of the distinguished surgeons whose names are appended to Dr. Ray's diploma may be of interest to some readers.



SIR ASTLEY PASTON COOPER.

In 1836 Sir Astley Cooper was holding the office of President for the second time. He was elected President for the first time in 1827. As illustrating his ideal of the profession we may quote the address which he used to deliver on the occasion of the admission of candidates to membership. After formally admitting them, he proceeded to say:

> And now, gentlemen, give me leave to tell you on what your success in life will depend.
> Firstly, upon a good and constantly increasing knowledge of your profession.
> Secondly, on an industrious discharge of its duties.
> Thirdly, upon the preservation of your moral character.
> Unless you possess the first, *Knowledge*, you ought not to succeed, and no honest man can wish you success;
> Without the second, *Industry*, no one will ever succeed;
> And unless you preserve your *Moral Character*, even if it were possible you could succeed, it would be impossible you could be happy.

The address ended with a few words of encouragement. Astley Cooper himself was a conspicuous example of a preacher who throughout his life practised what he preached. His life is so well known that it need not be related here in detail. Only a few points need be touched upon. He was the son of the Rev. Samuel Cooper, D.D., and was born at Brooke, seven miles from Norwich, in 1768. His paternal grandfather was a surgeon at Norwich. He had also an uncle, William Cooper, who was for many years surgeon to Guy's Hospital. Astley in boyhood was more noted for mischievous behaviour and feats of daring than for attention to his books. Although he sobered down when he began to study his profession seriously, he was never a reading man. Indeed, when the *Lancet* in its hot youth began what was the revolutionary enterprise of publishing hospital lectures, Astley Cooper remonstrated with Wakley on the ground that his lectures were most incomplete and unsatisfactory, as he read few books and knew scarcely anything that was going on in surgery on the Continent. Wakley rightly pointed out that it was just the fact that the lectures were the genuine records of the surgeon's own experience that gave them their extreme value. All Astley Cooper's books were written from first-hand knowledge, and for this reason they remain authoritative while successive generations of compiled textbooks follow each other into oblivion. Throughout his life he constantly dissected. This, in the days before the passage of the Anatomy Act, naturally brought him into contact with the "Resurrection Men" and he told a Committee of the House of Commons that there was no one, whatever might be his situation in life, whose body he could not obtain if he wished. He was always eager for information on all sorts of subjects, and however busy he was, if he found among his patients one who seemed to have some special knowledge, Astley Cooper did not grudge any time that might be required to extract it from him.

Though Cooper neglected his studies in boyhood, his early years were passed in an environment that must have gone far to supply any deficiency of school training. Among the visitors at his father's house were Canning, then fresh from Oxford; Dr. Parr, the famous scholar; the Lord Rosebery of the day; Lord Chedworth, and others. His father was a man of considerable attainments, and his mother was an accomplished woman. An operation by Mr. Donnee which he witnessed at the Norfolk and Norwich Hospital first gave him, in his own words, a strong impression of the utility of surgery and determined him to make it his profession. In 1784 he was sent to London to study under William Cooper. The uncle was, however, a somewhat rigid disciplinarian, and young Astley was by his own wish transferred to the tutelage of Cline, then the leading surgeon of London. Cline was a disciple of John Hunter at a time when that great man was but little thought of by the profession. Cooper himself attended Hunter's lectures, and became one of his most ardent admirers. To Cline's influence Bransby Cooper attributes much of Astley's success in professional life. In one way, however, a shadow was for a time thrown by the master on the pupil. Cline was a close associate of Horne Tooke, Thelwall, and others, then in bad odour on account of their political opinions; like them he was a sympathizer with the leading spirits of the French Revolution. In a political sense Astley Cooper took the colour of his surroundings. He made rapid progress in his profession, becoming a lecturer on surgery before his pupilage had expired. So much was his heart in the work that he delivered his lecture as usual on the evening of his wedding day. In 1792 he made a trip with his young bride to Paris, where he witnessed some of the scenes of the Reign of Terror and worked in the hospitals. In 1800 he was appointed Surgeon to Guy's Hospital in succession to his uncle, who, however, did not actively favour his candidature. His political opinions were against him, but a timely sacrifice of these gained him the favour of the all-powerful treasurer, Benjamin Harrison. It should in justice be said that professionally Cooper stood head and shoulders above his competitors for the post, and the use he made of the large sphere of opportunity thus opened to him proved how worthy he was of the appointment. Till he became surgeon to Guy's, his progress in practice had been slow. He says himself that his receipts for the first year of his professional life were five guineas; in the second his fees amounted to £26; in the third to £64; in the fourth to £96; in the fifth to £100; in the sixth to £200; in the seventh to £400; in the eighth to £610. In the ninth, the year in which he became surgeon to Guy's, his income was £1,100, and afterwards it rose steadily, its high-water mark being reached in 1815, when his bank book showed earnings amounting to upwards of £21,000. But almost to the end his professional income was very large, and he received very handsome fees. The city merchants among whom he lived and practised for many years gave him five guineas a visit; one paid him £600 a year for periodical visits; and from another magnate whom he had cut for stone he got a thousand guineas. His mode of life

when he lived in the City is described by Bransby Cooper as follows:

His custom was to rise every morning at 6 o'clock, even during the winter. As soon as he was dressed, he went into his private dissecting room, where he worked till half-past 7 or 8. Searle then dressed his hair, and by half-past 8 he began to see the gratuitous patients, who came to him in large numbers at this early hour. His breakfast occupied but a short space of time. A glance at the newspaper, the rapid swallowing of two well-buttered hot rolls, his tea allowed to remain till it was sufficiently cool, and then drunk off at a draught, now and then the reading aloud of some paragraph from the newspaper which was likely to excite laughter, and the meal was finished. He would then suddenly jump up, and as he held the door in his hand, would turn round, and with one of his sweet, benign smiles, take leave of the party for the day; for none of the female members of the family, at any rate, would have the opportunity of seeing him again until the hour for dinner.

He made a rule of never exciting his appetite at this meal by any of the usual dainties of a breakfast table. Although he cast many a longing glance at the bloaters, which were constantly sent to him from Yarmouth, nothing could induce him to break through this prescribed plan of abstinence from such stimulants. From the breakfast-room he went into his consulting room, to which a continued stream of patients would generally be pressing, until 1 o'clock.

The arrangement of the rooms in Broad Street was excellently adapted for the purposes to which they were applied. A large hall, an anteroom, and the consulting room, were in a direct line from the street door; to the right of the hall were two large rooms, which were occupied by gentlemen patients; while two drawing-rooms immediately above were appropriated to the reception of ladies. The hall had generally servants waiting for answers to notes for professional appointments; the anteroom was intended for the one or two patients who were next in succession to the patient then with Mr. Cooper.

The further room, on the right of the hall, which was the family dining-room, was generally full, from ten till twelve, of gentlemen waiting for their turn. These were anxious, perhaps, but still in a much less pitiable state than the occupants of the first room to the right. All who were admitted into this room had undergone some kind of operation, which had unfitted them for the present to leave the house. It was certainly an object of interest, at times partaking no little of the ludicrous, to me, as an inconsiderate youngster, on going into that room, to see six or eight persons, who had never set eyes upon one another before, contorting their features into expressions of all the kinds of suffering, from the dullest torment to the most acute pain; others moving in anxious restlessness to different parts of the room; while some one, more inquisitive than the rest, would be asking his neighbour with eager curiosity, what was the nature of the infliction he had undergone—still writhing, perhaps, under the effects of his own. These patients used to remain in this room until either their pain had ceased, or Mr. Cooper himself dismissed them, after completing the operation to which they had been subjected.

The patience of the ladies, perhaps, was somewhat more severely tried than even that of the gentlemen, for as, in Charles's judgement, their occupation was not likely to be so important, nor their time so precious, he was accustomed rather to expedite the admission of the gentlemen than theirs. He most ungallantly used to observe "there was more difficulty in drawing one lady than two gentlemen"; meaning to imply by his term *drawing* the succeeding in withdrawing the lady from Mr. Cooper's presence. The manner by which the ladies exhibited their impatience was by frequently opening the drawing-room door, peeping over the banisters, or sometimes coming down into the hall and supplicating Charles to get them a speedy audience; requests which he knew well enough how to answer appropriately to the peculiar temperament of each applicant.

The anteroom was sometimes applied to another purpose than the legitimate one of merely facilitating the regular succession of patients, for Charles had some few chosen friends who knew how to pay their way into this room at once, without going through the more tedious ordeal of the usual waiting-room.

The attempts which Mr. Cooper's visitors made to induce his servant Charles to allow them to see him at once, perhaps out of their regular turn, were sometimes extremely ludicrous. "No suffering was ever equal to theirs," would be tried. "Certainly Mr. Cooper would see *them* directly, if he had the least idea *they* were there." "It is not as if I should keep him a moment," and fifty other reasons were urged for the propriety of their admission. To all these arguments Charles turned a deaf ear, until that organ was rendered less obdurate by the chink of some more solid appeal; and then an excuse was generally found to allow him for this once to break through his usual plan. It is right to say, however, that when a mother spoke to him, or perhaps directed his attention to the sufferings of a child, he at once yielded to her entreaty, and gave her admission, often long before her turn.

Thus the patients were introduced in quick succession. I say quick, because the rap at the door of Charles—ever watchful of his master's interests, and not altogether perhaps forgetful of his own—and his exclamation, "A gentleman, Sir," were generally signals to depart which Mr. Cooper's Janus invariably made, as soon as he thought his master's time had been sufficiently occupied by the patient then with him.

When 1 o'clock came, it was announced that the carriage was at the door; but at the same time, in quite a different tone of voice, it was not unfrequently whispered that the house was still crowded with patients. To this sometimes my uncle would listen, and say, "I will see one patient more"; then, perhaps, "I think there is time for a second." If, however, on any occasion, the urgent call of a third induced him to allow his admittance, as soon as he was gone, my uncle, looking at his watch, and finding perhaps half an hour elapsed, would certainly fly into a rage, abuse Charles for detaining him, and jumping into his carriage declare that he was certain the governors of the hospital would deprive him of his situation for his negligence.

At the hospital he would find a hundred students awaiting his arrival on the steps. He would immediately direct his attention to the dressers and elder pupils, asking them as to the important cases, and moved on into the ward *magnâ juvenum comitante catervâ*. After the visit to Guy's there followed a lecture at St. Thomas's. Then he would go through the dissecting room, noting anything worthy of observation. At half-past 3 he left, usually taking with him one of his pupils or dressers to write to his dictation or assist in an operation. At half-past 6 or 7 he reached home and took a rapid meal. Directly afterwards, if it were an evening on which he had to lecture, he would make a few pencil notes of the heads of his subject, hastily swallow two glasses of port, and at once go to sleep for a short time. Whether he lectured or not, he always had a number of professional visits to pay, and did not get home till midnight.

Astley Cooper's success was undoubtedly helped by his handsome presence and genial sympathetic manner; he was the opposite of Abernethy, whose roughness he used to say was worth £1,000 a year to him. But few men ever worked harder than Cooper, and no surgeon ever more fairly won the success that came to him. Work was his life, and when in his later days he gave up practice and went into the country, he returned to his work again in a few months.

He performed some remarkable operations, including his famous ligature of the aorta. Yet he says of himself that he was never a good operator where delicacy was required. To quote his own words:

He felt too much before he began ever to make a perfect operator. For the operation of cataract he was quite unfitted by nature. Quickness of perception was his forte, for he saw the nature of disease in an instant, and often gave offence by pouncing at once upon his opinion. The same faculty made his prognosis good. He was a good anatomist of morbid as well as of natural structure. He had an excellent and useful memory. In judgement he was very inferior to Mr. Cline in all the affairs of life, and hence was continually walking upon a mine ready to explode under his feet. His imagination was vivid, and alway ready to run away with him if he did not control it.

The following is another account of himself written in 1836:

As an operator for stone, aneurysm, hernia, and the removal of tumours he was excellent, prior to his giddiness, but after that time he was always afraid of being seized with them (attacks of giddiness to which he was subject after middle life) whilst he operated. He never was fitted for a very delicate operation. His strength consisted in the quickness with which he could decide upon the nature of a case, and the certainty almost of his decision being right, as well as the readiness with which he adapted his means of treatment. His diagnosis was really most remarkable. He obtained that decision from having made it a practice, when young, to see all the poor who would come to him, and thus he saw such a variety of disease as to make him as familiar with it as a parent with his child. His principle in practice was *never to suffer any one who consulted him to quit him without giving them satisfaction on the nature and proper treatment of their case*.

His internal remedies were few and simple. He used to say:

Give me opium, tartarized antimony, sulphate of magnesia, calomel and bark, and I would ask for little else. These are adequate to restore all the actions of the body, if there be power of constitution to admit of the restoration, and disease, as far as I know, is either itself a deviation in the performance of some function, or at any rate is always marked by such a circumstance.

After referring to his success he proceeds:

For the benefit of the younger members of my profession let me say that this success may be always accomplished in a great degree. Be kind to everyone and most active to oblige. Learn your profession well, be an excellent anatomist, and understand well the practice and duties of your profession. Bend the force of your mind to some useful object, and be not multifarious and vacillating in your pursuits. Deep science is desirable to the man of fortune—useful science to the physician and surgeon. Let your zeal and industry be un-

bounded. My own success depended upon my zeal and industry; but for this I take no credit, and it was given to me from above.

Elsewhere he gives a pregnant hint which all students of medicine would do well to take as a guiding principle in their work:

It is not the number of cases a surgeon has seen but it is his ready application of them which renders his knowledge of practical utility and constitutes him an efficient surgeon.

To a modern surgeon trained in the complicated ritual of asepsis, with the special sanctuaries, the officiating vestments and ceremonial lustrations considered indispensable, Astley Cooper's methods must appear crude and almost barbaric. He operated, says his biographer, in his consulting room to an extent that had never before been known in the home practice of any surgeon.

Tumours were removed, fingers amputated, and many other operations performed which but a few years before were considered as feats in surgery. Infinite benefit arose to the public and to the profession by many operations being thus robbed of four-fifths of their horror. When a tumour was shown to him on such an occasion, which he at once saw required removal, if the subject were a lady, he would say: Now, my dear madam, this little swelling may become of importance to your life, at any rate your suspicions will render it a source of constant unhappiness to you, and therefore I am going to remove it," and as he began this address he rang the bell, and made signs which, without a word being said, sufficiently indicated to Charles what preparations were necessary. These were arranged so quickly, that Sir Astley had hardly finished his opinion before they were completed. It was rarely that a patient resisted his advice, for the dread of the operation was in a great measure removed by the simple manner in which he explained the propriety of submitting to it. In five minutes often a patient was thus relieved from "a source of anxiety which had preyed upon the mind for months, and, moreover, many were saved the misery which must always attend the perspective (*sic*) view of a relative or friend being exposed to surgical operation."

In some cases, when he saw that a slight use of the knife was unavoidable, he would prepare himself, unobserved by his patient, and under pretence of mere examination of the part, would at once execute the necessary task. Now and then this rendered the patient excessively angry, and I have heard a patient say, while wincing from the smarting consequent to the operation: "Sir, you had no right to do that without consulting me. God bless my soul! sir, the pain is intolerable. If you had asked me I don't think I should have submitted." "The very reason," my uncle would say, "that I considered it right to think for you; for now you will be well in about the same time that would have been occupied in making up your mind as to whether you would have it done or not." The patient by this time being restored to a somewhat more comfortable condition, from the gradual cessation of his pain, usually saw the force of Sir Astley's reasoning, and was grateful to him for the decision he had shown in his conduct.

It would be interesting to know the after-history of these impromptu operations. It must be remembered that these things were done in preanaesthetic days; the sights and the sounds must, one is disposed to think, have made Astley Cooper's consulting-room present something of the character of a slaughterhouse. The difference between the surgery of Cooper's day and that of our own cannot be more graphically illustrated than by a story related by Dr. Badeley, who at one time used to go to his house to see poor patients. Cooper had removed a tumour from the head of George the Fourth, and was very anxious lest erysipelas should supervene. Yet on one occasion, after he had visited his royal patient, he said to Badeley on his return:

"Pray tell me if you see anything particular about me? for the King did not seem in good tune; he looked hard at me from head to foot, and I cannot understand why—do you see anything?" "Why," I said, "I should have put on a white cravat and a clean shirt or at least have washed my hands before I waited on His Majesty."

The fact is, says his biographer with engaging simplicity, that Sir Astley had performed a slight operation just before he went to the palace. Evidently common cleanliness counted for nothing in the days of our rude surgical forefathers.

Astley Cooper's writings are still valuable, for they are founded on direct observation, dissection, and experiments on animals. He spared neither trouble nor expense in their preparation, and his magnetic personality made all practitioners willing to help him by supplying particulars of cases. His chief works are his monographs on dislocations and fractures and on hernia. The completion of his great work was prevented by his death, which occurred in 1841. He had worked to within a few weeks of the end. Every honour that can fall to a surgeon came to Sir Astley Cooper, and his name will always have a place in the history of surgery.

SIR ANTHONY CARLISLE.

Next comes Sir Anthony Carlisle, whom Charles Lamb described as "the best of storytellers and surgeons, who mends a lame narrative almost as well as he sets a fracture." It was from him that Lamb got the droll story about the three Quakers which he tells in his essay on "Imperfect Sympathies." Carlisle is also mentioned by De Quincey. He was born at Stillington, Durham, in 1786, and after attending the lectures of John Hunter, Baillie, and Cruikshank, and being the resident pupil of Mr. Henry Watson, surgeon to Westminster Hospital, he succeeded to the surgeoncy on Watson's death in 1793. He held the office till his own death in 1840. He was president of the College in 1829 and again in 1839. He delivered the Hunterian Oration at the College in 1820 and 1826. Of the latter of these orations Sir Charles Bell writes to his brother, J. G. Bell:

To-day Sir Antony Carlyle (*sic*) delivered it (the Hunterian Oration). I heard him at the public dinner of the Hospital boast what he would do. I saw the moment he entered he would fail—that he had miscalculated the subject, and the time and the audience. He had a large volume of manuscript before him; he was surrounded by a quantity of preparations suited to a course of lectures rather than to one discourse; and he had as many shell fish before him as you see in an oyster shop, and the folly or the wit to make the *oyster* the subject of the Hunterian Oration. He began with a supercilious confidence and after many interruptions, finally broke down after an hour and a quarter's delivery amid the noise and hisses of the audience. This was a fearful lesson to an audience.

Bell may not have been altogether without prejudice in the matter, as Carlisle had been appointed Professor of Anatomy to the Royal Academy in preference to himself. But the oration must have been a failure, for it earned for Carlisle the nickname "Sir Anthony Oyster." He was surgeon-extraordinary to the Prince Regent, and was knighted on the prince's accession. He held his appointment at Westminster Hospital till his death in 1840. He was a fair surgeon, and wrote several books, among them being *An Essay on the Disorders of Old Age and on the Means of Prolonging Human Life; A Lecture on Cholera; Practical Observations on the Preservation of Health and the Prevention of Diseases; Physiological Observations upon Glandular Structures;* and a pamphlet on man-midwives which gave great offence. In 1838 his conduct as surgeon to the Westminster Hospital gave rise to complaints as to his incompetency, and his clinical lectures were described as "frivolous, indecent, and absurd." In Mr. Fernandez Clarke's *Autobiographical Recollections of the Medical Profession* there is a description of one of his visits which fully bears out the description. A specimen of his stories, so much admired by Lamb, may be given: Sir Anthony asked his students if they had heard of the explanation given by a man who was asked why his nose was red. "I drink so much red wine," said the man. "I drink it red and p—— it white, and leave the red behind on my nose." Yet Carlisle must have been popular, for the publication of the report in the *Lancet* aroused such indignation among the students that Clarke on a second visit to the hospital had to flee for his life.

HONORATUS LEIGH THOMAS.

The next signatory, Honoratus Leigh Thomas, was born in 1769. On coming to London to study medicine, he brought a letter of introduction to John Hunter, who made an appointment with him for 5 o'clock the following morning. On presenting himself at that hour, Thomas found Hunter busy dissecting insects. He was a dresser under Hunter at St. George's Hospital, and also worked under Cruikshank the anatomist. After serving a short time in the navy, he was, on the recommendation of Hunter, who was surgeon-general, appointed assistant surgeon to Lord Macartney's embassy to China in 1792. In 1799 he saw service with the Duke of York's army in Holland. He married the elder daughter of Cruikshank, and in 1800 succeeded to his father-in-law's practice. He

was President of the College in 1829 and 1838. In 1827 he delivered the Hunterian Oration, in which he gave some interesting personal reminiscences of Hunter. Fernandez Clarke says of him:

The men whom we chiefly called in consultation occupied at the time prominent positions, but some of them contributed little or nothing to the literature of the profession. Honoratus Leigh Thomas, councillor, examiner, and twice President of the Royal College of Surgeons, was often called in by us. He was a very poor surgeon, very undecided, and avoided operations, but he was a shrewd practitioner in medical cases, to which his practice was mainly limited. He was familiarly known as "Dr. Thomas," and had a very extensive practice amongst the middle classes. He had in early life been a pupil of the celebrated Cruikshank, whom he afterwards assisted in his anatomical demonstrations, and lived with at his house in Leicester Place, Leicester Square. He subsequently married a daughter of Cruikshank, and succeeded his father-in-law as tenant of the house in Leicester Place, in which he practised for nearly half a century.

Mr. Thomas, as far as I know, made no contribution to the profession. He was courteous and able as an examiner, dignified as President, but he had no genius; there was nothing suggestive, nothing of *élan* about him. He was perfect in the sick-room; cool, attentive, kind, and in medical cases an excellent practitioner. Personally he was the *beau-ideal* of a physician—a tall and slender form, slightly bowed; a face sedate but kind; a forehead, though somewhat low, denoting great perceptive power; and a calm, somewhat subdued voice. He dressed truly "professionally"—black dress coat, waistcoat, and trousers, black silk stockings, and pumps; a spotless white cravat encircled his long neck; and a massive chain, with seals and keys, dangled from his watch-pocket. As I have said, he assisted Cruikshank in his anatomical lectures; but I am not aware that he was ever connected with any hospital or dispensary. He seemed to have a dread of operative procedure, though by no means in his palmy days a bad operator; but he would delay and delay surgical interference until his patient, tired out, would consult some more decided surgeon. He had a very extensive practice amongst licensed victuallers, and probably attended more members of that craft than any other surgeon of the present century.

Thomas died in 1846.

Robert Keate.

Robert Keate was born in 1777. He was a younger brother of John Keate, the *plagosus Orbilius*, who made his mark on the persons of so many of the future leaders in Church, State, and Society who passed under his birch at Eton. Robert Keate was apprenticed to his uncle, then surgeon-general to the army, and entered St. George's Hospital in 1793. In 1800 he was appointed assistant-surgeon to his uncle at St. George's, and thenceforward did nearly all his work. He retired from the army in 1810 with the rank of inspector-general of hospitals. In 1813 he succeeded his uncle as full surgeon at St. George's, and held the post until 1853. Keate spent his early professional life at sea. He was assistant-surgeon in the ship in which Prince William Henry, Duke of Clarence, was a midshipman. The Prince was grateful to him for his ministrations, and promised that if ever he became King of England he should be his body surgeon. The promise was fulfilled, and William the Fourth showed the same confidence in him when he was King as he had done when he was in the navy. In 1841 Keate was appointed sergeant-surgeon to Queen Victoria. He was proud of his appointments at Court, which he thought would be the basis of his fortune. He was President of the College in 1830, 1831, and 1839. But he said to Fernandez Clarke in 1853 or 1854:

My connexion with Royalty has been my ruin. I have attended four sovereigns and have been paid badly for my services. One of them, now deceased, owed me nine thousand guineas. The late King William IV always paid, but my journeys to Windsor to attend upon him and the Queen, as a rule, were a grievous loss to me. I have on many occasions, obeying a summons to the Royal residence, left a room full of patients anxious for my advice. The consequence eventually was that my practice declined, with respect to the public, and now that I am more than eighty years old I am a poor man. There is one exception, however, as regards my connexion with Royalty. That exception is the Duchess of Gloucester, who is my immediate neighbour. I visit her daily when she is in town, and the fees I receive in consequence from her form the staple of my income at present.

A characteristic story or two as to his relations with William IV may be quoted. He said:

I have no objection to relate to you one or two characteristic anecdotes of the late King. I was summoned down to Windsor to see the Queen. As it was "urgent" I immediately took post horses, and in two hours was at the Castle. I arrived so early that I was ushered into the breakfast room of the Royal couple. The Queen was suffering from a pain in her knee, and she gave me a hint that the presence of the King might be dispensed with. According I said, addressing the King, "Will your Majesty be kind enough to leave the room?"

"Keate," said he, "I'm hanged if I go!"

I looked at him for a moment; I then said quietly but firmly, "Then, your Majesty, I will be hanged if I stay!" When I got to the door of the apartment, the King called me back.

"Keate," said he, "I believe you're right; I'll retire. You Doctors can do anything; but if a Prime Minister or a Lord Chancellor had presumed to order me out of the room, the next day I should have had to address his successor."

Once, said Mr. Keate, the Queen had determined to consult a homoeopathic practitioner.

"I hate humbug," said his Majesty, "and I won't allow any homoeopath to prescribe for my wife unless you are present."

"It is impossible, your Majesty," I said, "that I can meet Dr. D——; there is nothing in common between us."

"Well, then," was the rejoinder, "will you overhaul the prescription of the medicine which he orders for her, and see if she can safely take it?"

I promised to do so, and on the prescription being handed to me, I said, "Oh, your Majesty, she may take it for seven years, and at the end of that time she will not have taken a grain of medicine."

Keate contributed little or nothing to the literature of his profession, but, according to Fernandez Clarke, he was second to none of his time in the use of the knife. Clarke says his diagnosis was as a rule accurate, and he was a careful and sound practitioner. He was somewhat below the middle height, and his manner was bluff often to the degree of rudeness. This may have been acquired at sea. Although in later life he was irritable, he was incapable of any meanness of conduct either to a patient or to a brother practitioner. He died in 1857.

John Painter Vincent.

John Painter Vincent was born in 1776. He was appointed assistant surgeon to St. Bartholomew's Hospital, becoming full surgeon in 1816. He delivered the Hunterian Oration in 1829, and was President of the College in 1832 and 1840. According to the sketch of the Presidents appended to *Sir William MacCormac's Address of Welcome delivered on the Occasion of the Centenary Festival of the Royal College of Surgeons of England* on Thursday, July 26th, 1900, Vincent's opinion was highly valued by his colleagues in doubtful cases, especially by Lawrence. He was wonderfully skilful with his hands.

This was pre-eminently shown in his treatment of a case of strangulated hernia, which he often succeeded in reducing when others had failed. Over and over again the students, disappointed in their expectation of seeing him operate, would exclaim, "As usual old Vincent has tucked it up."

His deftness of touch was a natural gift, for Leigh Hunt, who was attended by him when a boy at Christ's Hospital, speaks of it. He describes Vincent as "dark like a West Indian." Clarke does not seem to have been so impressed by him as his colleagues. He says:

John Painter Vincent was occasionally called in for his opinion. He resided for many years on the north side of Lincoln's Inn Fields. Vincent was a peculiarly shy man, but was not without ability. People who did not understand him thought him slow and dull; yet he was a minute and careful observer, but he wanted manner. He failed to impress his patient, at first, certainly, with an idea of his real power. Those who knew him better had great confidence in him. In person just above the middle height, he walked quickly and somewhat clumsily. He had somewhat of the appearance and manner of a lawyer's clerk hastening to court. He dressed rather shabbily in black. His face denoted no great power. His features were regular, and he had a good forehead, but he never seemed to be on good terms with himself, and consequently was often not on good terms with others.

Vincent was the author of a volume entitled *The Principles of Surgery and of Observations on Some Points of Surgical Practice.* Mr. Skey said of him that he had a mind which revolted from any act of meanness or dishonour, and of whom it might be said without flattery he never sullied his integrity by a single ungenerous act during a long life of professional activity. He died in 1852.

George James Guthrie.

George James Guthrie was born in London in 1785. He was early apprenticed to a surgeon, and worked as an assistant in the York Hospital; he became a Member of the College of Surgeons when not yet 16. He was almost immediately appointed assistant surgeon to the 29th

Regiment, and after five years in Canada he was ordered to the Peninsula, where he served almost uninterruptedly to the end of the war. He won the good opinion of the Duke of Wellington. In 1814 he retired on half-pay, and returned to London, where he worked under Bell, Brodie, and Abernethy. For two years he had charge of wounded men in the York Hospital. He is said to have been the first surgeon in England who used a lithotrite to crush a stone in the bladder. He founded the Royal Westminster Ophthalmic Hospital, to which he was chief surgeon. In 1823 he was elected assistant surgeon to the Westminster Hospital, becoming full surgeon in 1827. That appointment he held till 1843. He was President of the College in 1833, 1841, and 1854.

Guthrie lectured gratuitously for nearly thirty years on surgery to officers of the army, navy, and East India Company. His style was racy, and his teaching, being largely illustrated by his own experience on the battlefield and in the hospitals, was practical in the best sense. Fernandez Clarke says of him that he was brilliant as an operator, shrewd in diagnosis, and, though an uneducated man, he had all the natural attributes of a great surgeon. He died in 1856.

JOHN GOLDWYER ANDREWS.

John Goldwyer Andrews, the only one of the signatories whose name is not in the *Dictionary of National Biography*, was born in 1782, and was apprenticed at an early age to Sir William Blizard. He became a Member of the College in 1803. He was surgeon of the London Hospital, but contributed nothing to professional literature. He was President of the College in 1835 and 1843. He was a great collector of works of art. He died in 1849.

SAMUEL COOPER.

Samuel Cooper was born in 1780, and received his professional education at St. Bartholomew's Hospital. In 1806 he gained the Jacksonian prize at the College of Surgeons for the essay on "Diseases of the Joints," and in 1807 he published *First Lines of Surgery*, which went through seven editions. In 1809 appeared the first edition of his *Surgical Dictionary*, of which seven large and carefully-revised editions were published. After serving a year or two in the army, during which he was present at Waterloo, he devoted himself to the revision of successive editions of his two principal works, and also gained a considerable surgical practice. From 1831 to 1848 he was surgeon to University College Hospital and Professor of Surgery in the College. In 1845 he was elected President of the College of Surgeons. He died in 1848. Clarke calls him the Johnson of medical literature:

> His great dictionary, though of a different stamp and written with a different object, was to surgery what Johnson's great work was to English literature; it is a monument to his memory illustrative of marvellous industry and marvellous erudition. The labours of no single man in our profession can be compared with those of Samuel Cooper in the compilation of his great work.

He was almost entirely unassisted, and the work was completed in three or four years. He rose early, and finished his literary labours before noon. Samuel Cooper is described as an excellent teacher; at the bedside he was painstaking, clear in diagnosis. As an operator he was careful, slow, and somewhat clumsy, but sure. Notwithstanding his lack of the brilliant qualities of his colleague, Robert Liston, he was a great favourite with the students.

MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE FRIENDLY SOCIETY.

THE annual general meeting of this society was held in the rooms of the Medical Society of London on May 27th, DR. DE HAVILLAND HALL, Chairman of the Executive Committee, presiding.

The Chairman's Address.

DR. DE HAVILLAND HALL congratulated the members on the excellent work done by the society. During the past year there had been 211 new proposals, the largest on record. There was a net gain of 140, bringing the total membership up to 2,723; of that total, 2,682 had insured for sickness benefit, 161 for life assurance, and 285 for annuities. At the present time 28 members were drawing annuities, which amounted to over £1,000 a year. The amount paid in sickness claims had also created a record, being £14,447; the sickness experienced had been somewhat over the amount of the previous year; in fact, the sickness experience was gradually increasing. In the quinquennium ended 1898 the sickness experience was 75 per cent. of expectation; in the quinquennium ended 1903 it had reached 94, while in that just closed it was 97 per cent. of expectation. This, he thought, would afford an answer to certain members who suggested the extension of sickness provision beyond 65 years of age. If the sickness experience was growing under the present system, he was afraid that the sickness beyond 65 would prove something very startling. The Manchester Unity of Oddfellows showed that between 20 and 24 the sickness experience was 0.9 weeks a year, while between 65 and 69 it was 10.59 weeks a year, the Medical Assurance Society's experience worked out at about 1.2 days a year, if the society experienced ten weeks' sickness a year, the premium would have to be increased to such an extent that few members would be willing to pay it. The sickness fund now amounted to £126,126 as against £103,546 in the preceding year, a net increase of £22,579, but of this increase £9,557 was the share of the management and £7,827 the share of the investment fluctuation reserve fund. It had been decided that these two special funds should be merged into the Sickness Annuity and Life Assurance funds. The total funds of the society grew from £215,039 at the end of 1907 to £223,994 at the end of last year, an increase of £8,955. The members had all received the valuation report for the quinquennium just closed; it showed a satisfactory surplus in the sickness fund of £9,040 in addition to £6,306, the amount reserved against investment fluctuation. The surplus was sufficiently satisfactory to enable the committee to recommend the same rate of bonus to members retiring from the society at 65 as was paid in the last quinquennium—namely, ten guineas for each one guinea a week of sickness benefit assurance. The life assurance surplus of £4,303, with a reserve of £860, would allow a bonus of 15 per cent.; therefore, in future, all policies for £200 claimed during the present quinquennium would receive £230. In the annuity fund there was a small deficit of £2,781, which was more than covered by the reserve of £4,033. As was decided at the last general meeting, the sickness bonus would in future be paid out of the sickness fund, and not from the management fund. The result of the valuation was satisfactory, but as the rate of sickness experienced was steadily increasing, the society must be extremely careful to provide an ample margin for the future. At the last general meeting the question of the payment of members of the committee was referred to the committee for consideration, and he was glad to report that the whole of the committee felt that the work was a labour of love for their professional brethren, and that they did not wish to receive any pecuniary benefit; they were content with the thanks from the members of the society, and he hoped that the question would always be decided in the same way. As in the past, they were much indebted to the BRITISH MEDICAL JOURNAL, the *Lancet*, and the *Medical Press and Circular* for the notices published about the society's work. He tendered the warm thanks of the committee to Mr. Addiscott, their secretary, and Mr. Sutton, the assistant secretary, for the admirable way in which they conducted the business of the society. He also wished to express the thanks of the members to the auditor, and also to the trustees, who attended twice yearly at the bank to examine the investments; they were especially grateful to Mr. Hempson, who had given them useful suggestions about improved methods of showing how the society's funds were invested.

Report and Valuation.

The Chairman concluded his address by moving that the report of the committee and the audited accounts for the year ending December 31st, 1908, be received and adopted.

The CHAIRMAN, in reply to a question from Mr. GEORGE JACKSON, stated that the votes for Epsom College to which the society was entitled were confined strictly to the use of the children of deceased members.

The annual report was then adopted.

Two slight alterations of rules were adopted without discussion.

The CHAIRMAN then moved that the report of the actuary as to valuation of the society be received and adopted.

This motion was seconded by Dr. DICKINSON, and carried.

On the motion of Mr. GEORGE JACKSON, seconded by Dr. HAY, the officers for the year were elected.

Vote of Thanks to Chairman.

On the motion of Dr. BARKWELL, seconded by Dr. BRINDLEY JAMES, a hearty vote of thanks was accorded to the Chairman for presiding.

The reply of the CHAIRMAN brought the proceedings to a close.

MEDICAL DEFENCE UNION.

THE annual general meeting of the Medical Defence Union was held at University College, Bristol, on May 27th, Dr. STAMFORD FELCE, M.R.C.P., President, taking the chair at 4.30 p.m. There was a fair attendance of members, who listened with great interest to the excellent address on the work of the Union given by the President.

The annual report was adopted. The diversity of the claims for advice and assistance was shown by a schedule of some cases dealt with by the secretary, and by the legal report of the solicitor, Mr. Hempson. This set out the manifold nature of the matters referred to him; many of them had to be taken into court. It is interesting to note that, of 128 matters placed in his hands, 40 were for libel and slander, 25 were claims for alleged negligence in treatment; 7 cases were in respect of suppression of unqualified practice, and the remaining 56 were matters as to appointments, partnership disputes, defence of members in actions under the Notification of Disease Act, and so on. Of the cases referred to the solicitor 70 were from the provinces, 45 from the metropolitan area, 4 from Scotland, 2 from Ireland, and 7 from Wales. Two cases were compromised at the special direction of the members concerned, and in one case an adverse verdict was given against the member concerned. In all other cases the Union was successful in its defence of the professional honour and reputation of the medical practitioner assailed. The statistics of the remarkable successes of the Union in the past have enabled the Council to make excellent terms with an insurance company of the highest reputation in the matter of indemnity insurance, the terms being within the means of all members of the profession. Those members who take out policies under the scheme of insurance set out in the annual report can congratulate themselves upon being in a position of great security; but the Council very properly cautions the members that there must be no relaxation in any way of the care and skill which should in all cases be exercised in dealing with the sick and suffering, and that the contract entered into between the insurer and insured presupposes that the same caution will be used in this respect as was used before indemnity insurance came into operation. With this caution we thoroughly agree. Insurance against third party risks is fully justifiable, and, as business as well as professional men, there is no reason why medical men should not secure for themselves indemnity for risks which, unfortunately, as the records of the Medical Defence Union have proved, are part of the professional life of medical practitioners. The security offered by the Defence Union is ample and satisfactory, and it is difficult to imagine what the loss to individual practitioners would have been had it not been constituted. As is pointed out in the Council's report, it can be said with absolute certainty that without the protection now afforded numerous practitioners would have been "greatly harassed and seriously embarrassed." The relief to those attacked, in being able to hand over their troubles to a skilled organization, amply equipped with special knowledge in dealing with medico-legal work, with ample funds and large experience, must necessarily be great.

The usual statutory resolutions were passed, and the report and minutes adopted. Dr. Stamford Felce, Dr. Victor Jaynes, and Mr. F. C. Larkin, F.R.C.S., were unanimously re-elected members of the Council under Rule 28. A resolution directing the President to support the action of the General Medical Council in its endeavour to induce the Government to appoint a Royal Commission to inquire into the evils of unqualified medical practice was passed without any dissent. A vote of thanks to the President and Council for their arduous work for the protection of the members of the Union was carried unanimously, as was also a vote of thanks to the authorities of University College for the loan of the Library for the meeting.

ANNUAL REPORT OF THE CHIEF INSPECTOR OF FACTORIES AND WORKSHOPS FOR THE YEAR 1908.*

BY the omission of a certain amount of statistical information it has been found possible to issue this report at an earlier date than in former years. The sectional reports have been summarized by the Deputy Chief Inspector, and this summary, combined with a good general index, makes the report for 1908 extremely convenient for reference.

The factory staff has been increased by 35, so that the total number of inspectors and assistants is 200. The number of places under inspection still continues to increase. At the close of 1908 there were 260,000 factories and workshops on the register. Owing to the general slackness of trade throughout the country the volume of employment shows a reduction. To this circumstance is partly attributed the decline in the year's total number of accidents.

White Phosphorus Matches.

Three years ago, at a conference in Berne, certain European countries decided to abolish the use of white phosphorus in the manufacture of lucifer matches, but the United Kingdom, and Sweden, Norway and Belgium did not fall in with the proposal. The times were not ripe for the adoption of the proposal, especially too as there had not been for three consecutive years in this country a case of necrosis, except in one factory. Subsequently, owing to an agreement among the manufacturers themselves, their attitude to this question became altered, especially in view of the absolute prohibition of the importation of phosphorus matches. The White Phosphorus Matches Prohibition Act was passed in December, 1908, and comes into force on January 1st, 1910. After this date white phosphorus matches may not be made or imported. When this Act comes into force all the special rules of 1899 will become obsolete.

Employment of Children in Scotland.

The Education (Scotland) Act, 1908, which came into force on January 1st of the present year, affects the employment of children and young persons. Previously certificates of exemption from school attendance could be granted to children between 12 and 14 years of age. By the new Act the age limit is extended to 16 years. The board is also empowered to make by-laws requiring the attendance at continuation classes of persons between 14 and 17 years of age who are not otherwise receiving a suitable education.

Laundries.

Laundries are now regarded as technically non-textile factories or workshops, accordingly as power is used or not, but they are subject to certain exceptions as to hours. Charitable and reformatory institutions also come within the influence of the Factory and Workshops Act, 1907.

Prison Employees.

The number of persons industrially employed in prisons in England and Wales is about 14,000; in "asylums" in England, Wales, and Scotland 10,000, and in inebriate reformatories in England, Wales, and Scotland 500. The figures for Ireland are not given.

Scheduled Diseases.

After the publication of the second report of the Industrial Diseases Committee the following further additions to the third schedule of the Workmen's Compensation Act, 1906, were ordered—namely, glass workers' cataract,

* Wyman and Sons, Fetter Lane, E.C. Price 2s 4d.

telegraphists' cramp, eczematous ulceration of the skin produced by dust or liquids, and ulceration of the mucous membrane of the nose or mouth produced by dust.

Employment of Mothers.

An inquiry is still proceeding as to the industrial employment of married women before and after childbirth, the results of which will appear in a forthcoming digest of the returns.

Sectional Reports.

In the Sheffield district there has been a decrease in the number of fatal accidents. Notwithstanding this circumstance, of the accidents which did occur 75 per cent. were preventable.

Although work in shipbuilding yards has been extremely slack, the number of accidents remains far too high. Many men were injured by articles falling upon them. A larger number of men were seriously injured by falls from staging, ladders, deck beams, etc. Although the attention of employers has been specially directed to this circumstance, no noticeable improvement has as yet been observed.

Cutlery Dust.

Messrs. C. Johnston and S. R. Bennett describe in an appendix the results of experiments undertaken with the view of devising means for the prevention of the inhalation of dust among operatives in cutlery. This paper, which was read at the Sheffield meeting of the British Medical Association in August last, is an indication of an earnest desire on the part of factory inspectors to participate in the various movements for the hygienic improvements of our industries so characteristic of our times.

The Flying Shuttle.

This appliance is still a cause of many serious accidents, for a perfect shuttle guard has not yet been invented.

Reports of the Lady Inspectors.

The lady inspectors have opportunities of eliciting information not always readily obtained by their colleagues. Many of the comments on industrial changes sent to Miss Anderson, the Principal Lady Inspector, deal with laundries. It would seem as if the day of the smaller laundries was drawing to a close. All over the country, not in the large towns alone, large laundries are being built.

With the small laundry will go many of the worst features of the trade; but will go also the small weekly wage of many a hard-working old woman who has kept herself off the parish or supported a sick husband by work in the smaller hand laundries.

The desirability of the air of workrooms being kept as pure as possible is shown by the tendency of the women to become anaemic and the possible development of tuberculosis. While work in a high temperature and a humid atmosphere is to be deprecated, a similar remark applies to work carried on in rooms wherein the temperature is little higher than that of the outside air.

As regards the industrial employment of children and young persons, attention is drawn to the greater loss of life in Belfast than in Manchester. At the age 15 to 20 the death-rate rises in Belfast to double that of Manchester, and yet the death-rate in the first five years of life shows that at this stage the chance of life is greater in Belfast. The higher death-rate in early womanhood is attributed to the strain of the long day in the hot and noisy mill or factory, leaving the workers no reserve of strength to support growth of mind and body.

The Report of the Medical Inspector.

Dr. T. M. Legge's report contains as usual much valuable information. During the year Dr. E. L. Collis was appointed an additional medical inspector of factories, a post to which he brings the experience gained during the ten years he acted as certifying factory surgeon for Stourbridge and surrounding districts. The appointment has been a most fortunate one, and has given general satisfaction. Already, in this 1908 annual report, there are indications of good work done by Dr. Collis.

Mention is made by Dr. Legge of the papers read and the discussions which took place in the Industrial Hygiene Section at the Sheffield meeting of the British Medical Association. Of the value of such a section at the annual meeting there can be no doubt. It is anticipatory of, and complementary to, the work done by the Home Office.

Industrial lead poisoning shows an increase upon 1907. This may be due in part to the inclusion of lead poisoning in the third schedule of the Workmen's Compensation Act. The unhealthiness of some factories compared with others has long been known. This is well brought out by Dr. Legge. In one pottery the duration of employment for some women was only four months when plumbism supervened. There were 32 fatal cases of lead poisoning in 1908, 1 fatal case of arsenic poisoning out of 23 notified, and 47 cases of anthrax (7 of which were fatal), compared with 58 for 1907.

A short account is given of an investigation by Dr. Collis into the health of cotton operatives employed in card stripping, one of the dusty processes in a cotton factory.

Although known for decades of years it is only recently that the subject of deafness caused by certain occupations has formed the subject of careful inquiry. It is almost impossible for any person employed as a boilermaker to escape becoming deaf. To avoid the painful sensations caused by hammering, workmen are recommended to plug the ears with *plasticine* mixed with cotton. Not only will unpleasant sensations be thus prevented, but in all probability deafness as well. It is most desirable that this loss of hearing should, if possible, be prevented, for once established treatment is of no avail.

We have said sufficient in this brief review to show what a wealth of interesting information is contained in this report, and how favourably it reflects upon Dr. Whitelegge and his staff of competent inspectors.

THE SEVENTH INTERNATIONAL CONGRESS OF APPLIED CHEMISTRY.

WITH a membership of some 3,000 and a programme divided up into seventeen sections, the Seventh International Congress of Applied Chemistry entered on its brief life on May 27th. Chemistry relating directly to medicine claimed attention in no less than five of the seventeen sections—namely, in the sections of physiological chemistry and pharmacology, of fermentation, of hygiene, of pharmaceutical chemistry, and of bromatology. In spite of the number of members, the attendance at the individual sections was not large, and in none of the five mentioned was there anything approaching a crowd. Photo-chemistry attracted a fair attendance, as did the sections dealing with analytical chemistry, explosives, and organic chemistry. The head quarters of the Congress were the University of London, and the rooms allotted to the various sections were well adapted to the requirements. A little difficulty was experienced by a few who desired to attend some interesting and instructive demonstrations given in connexion with the combined sections of physiological chemistry and fermentation at University College.

GENERAL ARRANGEMENTS.

An ideal congress, as far as we are aware, has never yet been held, although, according to all accounts, the Surgical Congress at Brussels last year came near to this. It is, therefore, not surprising that the present congress was by no means ideal, either from a scientific or from a social point of view. The sectional arrangements appear to have been carefully organized and fairly well carried out, especially in the matter of selection of important themes for discussion. There were, as usual, many, too many, papers in the programmes, but the number of absentees was unusually small. The practical nature of some of the subjects and their association with trade rendered it inevitable that a certain amount of puffing should be included. The young scientist, or would-be scientist, who is so fond of holding forth at the maximum permissible length at medical congresses to his own great satisfaction and to everyone else's discomfort was not freely represented, probably because those who had a real interest in bringing themselves into prominence were men of maturer years and vested property. A thoroughly friendly spirit pervaded the discussions, and while banter was not infrequently indulged in, a happy smile and international courtesy accompanied it. The wealthy potentate from both sides of the

Atlantic was accorded more time for his speeches than was wise on many occasions, and on more than one did the chairman fail even to keep such a speaker to his point. Long-winded effusions were tolerated in a measure which often was out of proportion to the interest of what was being said, but it should also be recorded that the audience was as much at fault as the chairman, for no signs of impatience or noisy interruption were indulged in.

The scientific value of the deliberations of the Congress can scarcely be estimated until some time has passed, but as far as the sections dealing with medical subjects were concerned, we would be inclined to believe that it was fair, certainly not below the average.

From a social point of view, we cannot congratulate the management. It would be difficult to imagine more confusion, less organization, and less comfort. Everything that should have been worked out and prepared a week before the Congress was hurried through at the eleventh hour. To start with, the information office had no information on any subject to give, save that tickets for this or that entertainment would probably be ready on the next day. Crowds of members of both sexes swarmed in the office, and the unfortunate officials were powerless to allay the wrath of those who failed to obtain what they considered they had a right to claim.

Part of the difficulty arose from the fact that the receptions at the Guildhall and Foreign Office were limited to 1,500 and 2,000 members respectively. It certainly appears unwise for a public body to issue invitations to a limited number of members. If the City of London or the Government of England wishes to entertain the members of a great international gathering, surely not much difficulty should be experienced in offering hospitality to 3,000. The banquet was arranged to take place at the Crystal Palace. We presume that a sufficiently large hall could not have been obtained more centrally, where over 2,000 persons could be fed sitting at tables. The distribution of the tickets for the banquet took place at a most inconveniently late and awkward hour. The plans of the tables bore numbers which were incorrect, and arrangements for the formation of parties were conspicuously absent. The feat of carrying this large number of ladies and gentlemen from Victoria to the Crystal Palace was performed quite creditably by the S.E. and C. Railway; but no one could have been pleased to learn that the trains would commence running at 6 p.m., so that those who did not live close to Victoria would have to break off work at an early hour to dress, journey to Victoria and find their train before that hour.

The private invitations extending hospitality to the members by a number of well-known and influential Londoners were better managed; any member desiring to attend one of the parties had to fill in an application form, and, provided that the number of invitations issued was not in excess of the number of guests arranged for, he received a formal invitation in the course of post.

The Entertainments.

On Wednesday evening, May 26th, the Lord Mayor and Corporation of London received members of the Congress at the Guildhall. A number of distinguished personages were present, and a military band assisted in enlivening the preliminary proceedings. In the various apartments leading from the central Guildhall entertainments were given. The concert attracted a fair attendance, although our Continental friends could scarcely have regarded the performances as, musically speaking, high class. Dancing was indulged in by a few, while many looked on. The pictures, too, appeared to please a considerable section of the visitors.

On the evening of May 27th, His Majesty's Government, represented by Mr. Harcourt, received 2,000 members at the Foreign Office. Among those present were Lord Justice Fletcher Moulton, Lord Strathcona, various members of the Government and of the Governmental departments, and other members of Parliament.

On the evening of May 29th the Society of Chemical Industry entertained the whole Congress at the University of London, while in the afternoon a garden party was given at the Royal Botanic Gardens by the Ladies' Committee. Both of these entertainments were crowded and much appreciated. At the former, dancing, music, and refreshment—Wein, Weib und Gesang—assisted in enhancing the general enjoyment of those present.

The Banquet.

As has already been mentioned, the Congress Banquet took place at the Crystal Palace on Friday evening, May 28th. Over 2,000 guests were carried by special trains to the Palace, and on arriving found a suitable space reserved for promenading until the hour when the banquet was announced as ready. The President received the members shortly before 8 p.m., and at length the whole vast company was ushered into the central hall. Here a maze of tables was spread, but considerable difficulty was experienced in finding the allotted seats, as not only had a series of numbers been omitted altogether, but no names were attached to the places. Of the speeches, we regret that nothing can be said, as nothing could be heard. With difficulty the various speakers could be recognized as they rose, and it was curious to watch the gestures, without being able to perceive the least trace of sound. The band, conducted by a lady, and consisting of many ladies and a few mere men, performed the national anthems of the various countries, we presume in response to the toasts. At 10 o'clock a display of fireworks took place, and at about 11 o'clock the company, not much wiser, and certainly not in the least sadder, was conveyed in many specials back to London and bed.

The Inaugural Meeting.

The Albert Hall is too vast a place for a gathering of under 4,000 persons. Its proximity to the London University, however, rendered the choice convenient, but there does not seem to be any reason why the public should not have been admitted to the balconies, if only to fill up the gaps which made so cold an impression in their naked, empty condition. At 3 p.m. Sir Henry Roscoe and Sir William Ramsay received Their Royal Highnesses the Prince and Princess of Wales at the entrance of the hall, while Sir Frederick Bridge played "God Bless the Prince of Wales" on the organ. As soon as Their Royal Highnesses had been conducted to the platform and had shaken hands with the chief delegates of the various countries attending the Congress, the Prince opened proceedings. He read a short speech, in the course of which he greeted the members not only in his and in the Princess's name, but also in that of the King. His Majesty was glad to think that the foreign representatives would visit Windsor Castle during their stay. Continuing, he said: "I fully appreciate the important part which chemistry plays in almost every branch of modern industry. We all recognize that without a scientific foundation no permanent superstructure can be raised. Does not experience warn us that the rule of thumb is dead, and the rule of science has taken its place?" He then declared the Congress open.

Sir Henry Roscoe in a short speech welcomed the foreign members in the name of British chemists, and thanked Their Royal Highnesses for gracing the meeting with their presence.

Sir William Ramsay made an excellent speech, delivered in clear tones, which could be well heard in every corner of the hall. He called attention to the fact that the King of Italy had filled the same position at the last Congress, held at Rome, as the Prince of Wales was filling. Professor Cannizaro was the honorary president at the last meeting, and he was glad to think that this great man, whose work had done so much to make clear what was obscure and involved before, was still well and strong. Professor Paterno had been acting president at Rome, and he bade him a hearty welcome to England. Professor Witt, the acting president of the Fifth Congress, held in Berlin, was also present, and he extended a warm welcome to him also. After referring in sympathetic tones to the loss sustained by the decease of M. Berthelot and M. Moisson, he passed on to the discussion of the value of the association of scientific and technical chemistry. He pointed out that the chief difference between the pure science and its application consisted in an answer satisfactory to the technical chemist, but wholly irrelevant to the man of science, to the question, Will it pay? In conclusion, he said: "It has often been said that science is cosmopolitan, and knows no country. The existence of such a Congress as this is in itself a proof of the truth of this saying. We are favoured by the presence of representatives from every civilized State of the world. We are met together to discuss how best to develop the special branches of

chemistry to which we devote our lives; how to further their progress, and to mark the level to which they have already attained. A glance at our programme will reveal the many-sidedness of our endeavours. There is a city on the other side of the Atlantic whose motto, I think, is one of the noblest imaginable. It has the sanction of Scripture, and it is eminently practical. '*Philadelphia maneto*'—let brotherly love continue." Before resuming his seat, he spoke a few words of hearty greeting in French, German, and Italian, which evoked great and prolonged cheers.

Professor H. W. WILEY, Chief Chemist of the Agriculture Department of the United States of America, replied in the name of America. In touching on the importance of chemistry to the whole world, it was natural that he should give agricultural chemistry the first place. He stated that one service of chemistry was even more important than the service of applying science for the massing of wealth. That service was the development of prophylaxis in medicine. He instanced the problem of sanitation as one essentially chemical, including as it does the provision of pure food, pure air, pure water, ensuring pure activity of mind and body. Chemistry, he said, detects frauds and adulterations in all articles bought and sold. It exposes the manufacturer and the dealer who makes and sells any article deleterious to man, or under a false name or representation, to public scorn, and to the penalties of the law.

Professor ARMAND GAUTIER spoke in the name of France and particularly as the representative of the Minister of Public Instruction and of the chemists of his country. His colleagues across the Channel, he stated, held British chemists in high regard. The services rendered by Priestley, by Cavendish, by Dalton, by Humphry Davy, were mentioned in support of the statement that England had contributed very largely to the advance in the science. Next, he recalled the names of several great French and British chemists who had supplemented and improved each other's work, and by whose combined efforts marvellous strides had been accomplished. In conclusion, he acclaimed that the country of Lavoisier, Pasteur, and Berthelot offered that day a just tribute to the country of Cavendish, Davy, and Faraday, bringing to British science and activity the expression of its admiration and sympathy.

Professor Dr. OTTO WITT, President of the German Chemical Society, spoke in the name of Germany. Speaking in German in a voice which carried to the utmost corners of the vast building and with an enunciation which rendered each syllable distinct and clear, he bore greetings from his Government and from his society. Applied chemistry, he said, advanced in two distinct directions. It dealt with the chemical condition of raw material and advanced the interests of the industries of the world. The vivid interest which was being taken in this dual work was shown by the patronage of the rulers of the various lands, and in this connexion he offered his thanks to Their Royal Highnesses and to the King for their presence and sympathy.

Professor EMANUELE PATERNO, Vice-President of the Italian Senate, spoke in the name of Italy. Using his native language, and speaking with deliberation, after offering hearty greetings to the illustrious gathering of scientists and manufacturers, he passed in review the work done in England by many renowned chemists, and concluded by hoping that the endeavours of the Congress would be crowned with success.

The last speaker was Professor S. A. ARRHENIUS of Stockholm, who spoke in the name of all other countries. He spoke in English, and referred to England as the classical land of applied chemistry, and called attention to the fact that the study of hygiene had been very materially furthered by chemistry. He found that London has the lowest death-rate of all the large cities of the world, and believed that this was the fruit of applied hygiene. The present Congress included more biological chemistry than had been included in all of the former congresses, and in this fact he found a promise for the future.

The whole proceedings only occupied some forty-five minutes, and it must be regarded as a wise innovation to avoid a large number of speeches by innumerable delegates. On the present occasion Professor Arrhenius was entrusted with the task of replying for "Other Countries," so that the audience was spared a tedious and unprofitable couple of hours. The choice was one which may be taken as a compliment to the medical profession, since Professor Arrhenius has turned his attention to the chemical side of the study of immunity, and had certainly furthered our knowledge of immunity even if all his views are not acceptable to the majority of our profession.

The meeting broke up to the accompaniment of the National Anthem, during the playing of which Their Royal Highnesses left the hall.

THE SECTIONS.

The Theory of Colloids.

An interesting series of papers led to an animated discussion on the colloids in biology and medicine. Dr. HARDY opened with an account of the source of electric discharge on colloidal particles. Mr. BAYLISS followed, and gave his views as based on his experiments on certain dye-stuffs. Working with Congo red, he found that solutions in water behaved as if in true solution. The osmotic pressure, however, demonstrated that the particles were in colloidal suspension, and that the dye exerted an electronegative charge. The solution exhibited extraordinary sensitiveness to the action of electrolytes, but the osmotic pressure proved to be independent of any foreign electrolytic action. Ultramicroscopically, no particles could be discerned. The type of colloidal solution was therefore explainable on the assumption of large aggregates of infinitesimally small particles. He then spoke of the demonstration of the varying size of molecules when the solution was mixed with other colloids, and with calcium sulphate. The methods by which the osmotic pressure could be theoretically measured was described and adapted to changes in the solution, which follow when acids are added. All these observations, he claimed, lent considerable support to the kinetic theory of colloidal solution.

Dr. FREUNDLICH considered the whole phenomenon as one of adsorption. He gave a working formula, from which calculations could be made. Dr. BECHOLD and Dr. BOTTAZZI also read papers on the same subject, while Dr. GAUTIER and others took part in the discussion.

Titration.

Much amusement was afforded by the discussion on Dr. Friedenthal's paper on titration, with indicators, and the determination of reaction by the determination of hydrogen anions. The reader attempted to prove that his method gave more reliable results than those methods more commonly in use, and that since the results obtained under certain conditions by the other methods failed to tally with theory, it was justifiable to introduce new methods, so as to have control means of testing. He argued hotly against the acceptation of Ostwald's conceptions of the processes of ionization. Drs. DRUCKER and ROTHMUND contested the admissibility of his arguments, and elicited ready replies. Professor ARMSTRONG interposed with the stringent remark that he considered Ostwald's theory as "undiluted nonsense," and included the work of Arrhenius and Van t'Hoff in his caustic criticism.

Haemoglobin Reactions.

Dr. BUCKMASTER spoke of and demonstrated his pseudoperoxydase reaction between haemoglobin and its derivatives and guaiaconic acid. The old guaiacum test, in which guaiacum and turpentine oil is used, demonstrated the presence of blood pigment, at all events when applied to the body fluids. Care must be exercised when testing urine in which iodides might be present. Since guaiacum is a substance of unknown composition and is variable, he found that disadvantages occurred in its use. Solutions of aloin acted in the same way. The leucobase of malachite green reacted in the presence of traces of hydrogen peroxide and iron-containing derivatives of blood pigments. Pure haematoporphyrin and haematoidin, being free from iron, did not give this reaction, nor did they give the usual guaiacum or aloin tests. The leucobase acted on blood solutions which had been heated to 200° C. for three hours, and this he regarded as proof that the reaction was not due to peroxydase.

Alcoholic Fermentation.

Drs. HARDEN and YOUNG demonstrated the processes determined in alcoholic fermentation. The action of yeast

juice, by which they mean the juice expressed from yeast cultures after grinding up with kieselguhr or sugar, depended on the presence of the enzyme, which is thermolabile and non-dialysable, and the co-enzyme which is thermostable and dialysable. The using up of either or both of these constituents is followed by the cessation of the fermentation. They further found that yeast juice fermented glucose more rapidly in the presence of phosphates than in its absence. Yeast juice, however, contained a certain amount of phosphate, so that they were inclined to believe that the phosphate was a necessary condition for the fermentation. Attempts had been made to free the juice from phosphate, but this had not been completely successful. Samples of yeast juice deprived of the greater part of their phosphates exerted only a very faint fermentative action on sugar. If phosphate in certain proportions were added to the juice, the increase of fermentation on sugar, as evidenced by the production of carbonic acid, could be calculated from the amount of phosphate added. The curve of the action showed that the rate of ordinary juice fermentation proceeded very gradually, while when phosphate was added the curve rose rapidly, and, after a short time, when all the extra phosphate had been exhausted, again returned to the original rate. The authors were thus enabled to work out a formula, according to which sugar acted on by yeasts which must contain phosphate forms a compound of phosphate, which they term hexose-potassium phosphate. The enzyme reacting on this complex phosphate after the fermentation has been completed hydrolyzes the latter, and a sugar and free phosphate is again formed. If the phosphate be added in excess inhibition of fermentation is seen. From these observations it appears that phosphate is essential for alcoholic fermentation. The demonstration proceeded with extraordinary smoothness, and the increase of production of carbonic acid gas was most striking.

Other Demonstrations.

A number of other demonstrations of a highly interesting nature were also watched closely by a number of members. These included the production of formaldehyde by light in the presence of chlorophyll, the estimation of phosphorus by Neumann's method by Drs. PLIMMER and KAYA, some methods of investigating the action of drugs on the heart by Professor CUSHNY, and a method of blood gas analysis by Dr. BARCROFT.

Standardization of Disinfectants.

Drs. SCHRYVER and LESSING described their method of determining the rate of putrefactive change in the presence of varying quantities of antiseptics by measuring the rate of change in the substrata. This measurement is carried out by recording the change in the electric conductivity. The method and its importance have already received full consideration in the pages of the JOURNAL. Dr. RIDEAL and Mr. ORCHARD followed. The communication resolved itself into a reply to the paper published in the *Journal of Hygiene* by Drs. Martin and Chick. This paper has also been fully dealt with in the pages of the JOURNAL. The authors dealt with the suggested modifications of the Lister Institute test by (1) introducing large quantities of organic matter in solution or in suspension. This they regard as unwise, since under ordinary conditions of sewage the quantities of faecal material are never present in the quantities which are suggested, that is, 3 per cent. In sewage effluents, the Commission on Sewage recommends that not more than 3 parts in 100,000 should be permissible, so that the percentage suggested must appear inordinately high. (2) It is suggested that the test should be carried out at an optimum temperature of 20°C. The Rideal-Walker test is prescribed at a temperature with a range of from 15 to 17°C., that is, at room temperature. Disinfection is greater at higher temperatures, and therefore the suggestion departs from the conditions usually met with in practice. (3) The Lister Institute test requires the adoption of one definite time of contact for the valuation, and (4) requires that the time during which the disinfectant is allowed to act be lengthened to thirty minutes. The authors consider that in practice a disinfectant is required to destroy unknown cultures of different organisms in various kinds of media of unknown reaction at different temperatures and in the quickest possible time. The majority of disinfectants show increasing carbolic coefficients with longer times of contact, but between two and a half and fifteen minutes lies within the limits of experimental error. The authors further disagree with the deductions made by Martin and Chick in regard to the action of mercuric chloride, the action of which is arrested after a given time by the application of sulphuretted hydrogen.

Dr. CRONEN interposed a paper on the disinfectant action of peroxide of hydrogen, in which it was maintained that this drug is more active in acid or even alkaline solutions than in neutral solution. Alkaline solutions were not taken into account on account of their instability. The action was weak at low temperatures, but rose rapidly with increase of temperature. Peroxide, he concluded, therefore, was not suitable for disinfection of drinking water or sewage, but was eminently suitable for the sterilization of instruments, hands, and other objects in surgical practice.

Dr. WYNTER BLYTH considered that bacteriological tests could not be used alone for standardization purposes, owing to the want of agreement in results obtained by different bacteriologists using the same standard method. In this direction he especially dealt with the Rideal-Walker test, which he stated gave extremely varying results. He found that heated organism tests did not always expose worthless or fraudulent disinfectants, and that chemical analysis combined with bacteriological tests appeared to be required for the proper control of disinfectants. He thereupon described his method of testing the commercial emulsions. The method depends on the de-emulsifying of the soap disinfectants by means of acetone, and subsequent treatment with ether and soda solutions. The details are somewhat complicated, and cannot be given in this place. More difficulty is experienced in de-emulsifying albumen emulsions, but this can also be done with acetone, and the liquid is then dealt with by petroleum ether. Professor KENWOOD also spoke of the variable results obtained by the Rideal-Walker test. In his reply, Dr. Rideal sought to show that the admission that the simpler test yielded variable results indicated that the time had not yet arrived to introduce a more complicated one.

Legislation.

Quite apart from those sections which might have been expected to contain matters of interest to the medical man, there were several papers read in other sections bearing directly or indirectly on medical subjects. This was especially true of the section devoted to Law, Political Economy, and Legislation affecting Chemical Industry. On the first day's session the chief business done was the carrying of a motion to the effect

> That the committees of the various countries party to the International Convention for the Protection of Industrial Property be requested to consider the desirability of adopting the following provision: "The manufacture in one country of the Union protects the patentee against the revocation of his patent in all countries of the Union."

The meeting on May 29th was devoted chiefly to technical points of patent law, but several of the French members present pressed for a motion proposed by M. Fourneau, forbidding more than one registration in respect of the same pharmaceutical substance. German and English members, however, pointed out that this was an impossibility in their respective countries and of purely local interest for France. The motion, after an animated discussion, was withdrawn and reserved for the next Congress.

On May 31st an interesting and important paper was brought forward on behalf of Dr. C. A. von Martius on the transport of dangerous goods in merchant vessels. The author contended that the cases of damage by fire on board merchant vessels had considerably increased during the last few years, and quoted the following table, drawn up by the German Lloyd, showing that the packing, stowage, and declaring of dangerous goods left much to be desired. Between the years 1903 and 1907 inclusive the following cases of damage by fire were reported:

	1903.	1904.	1905.	1906.	1907.
Totally destroyed	29	25	35	34	42
Of these, parcelled goods ...	4	4	3	2	6
Partially destroyed	308	307	320	317	384
Of these, parcelled goods ...	93	94	101	103	127

The author had intended to propose that Great Britain should be invited to call a conference of maritime States interested to draw up and ratify suitable regulations. In his absence, however, the motion was not proposed.

In the afternoon, following a paper read by Professor BASKERVILLE (New York), a motion was proposed for the appointment of an International Commission to establish uniformity in the control of the escape of noxious gases.

At the last session M. HENRI TAFFE proposed that milk sellers should be obliged to supply only a certain minimum percentage of dry extract and butter in milk, and at the same time that the presence of a centrifugal cream separator near a dairy, as indicating fraudulent intent, should be regarded as a penal offence.

Starch.

In the other sections there was no lack of similar material. In the Starch Industry Section papers were read on various processes for the bleaching and conditioning of flour. Mr. R. WHYMPER contributed a remarkable paper on the microscopic changes occurring in starch granules during the germination of wheat. The paper was based on a microscopic examination of grains extended over a period of growth of fourteen days. Inspection showed that thirty-six hours after the grain had become thoroughly moist the larger starch granules nearer the germ began to show signs of pitting. After three days the grains swelled, and in the centre of the flanks were considerably swollen, and in many cases were pitted by enzyme action. At this stage long oval starch granules, more resistant than the usual round form appeared, and by the ninth day the majority of the starch granules were of the oval form. As a result of these observations the author concluded that the larger and more mature starch granules were the more easily assimilated as plant food. On investigation by means of diastase and other reagents it was found that no general relation existed between their size and the ease with which they were attacked, but that it was almost universally true that the larger granules of any one starch succumbed more quickly to attack than the smaller granules of the same kind.

Oxidation of Atmospheric Nitrogen.

Saturday was the great day of the Electro-Chemistry and Physical Chemistry Section, when a full-dress debate was held on the possible means of the oxidation of atmospheric nitrogen, with an experimental demonstration by Professor BERNSTHEN. The room at the Central Technical Institute was crowded, and several members of the Congress were unable to gain admission. Other aspects of this important national problem were also dealt with by Messrs. N. CARO and C. WEISS. Throughout the week the agricultural chemists discussed various aspects of the same nitrogen problem, considering the value of the different nitrogen manures and the possibility of substituting biological for chemical methods.

Photography.

In the photo-chemistry department Mr. F. W. T. KROHN had a most sympathetic hearing when he argued in favour of the establishment of an international standard method of marking the speed of photographic dry plates and a definition of the standard conditions under which such speed tests should be carried out.

Other Sections.

To a certain extent the papers read in the Fermentation Section covered the same ground as those in Bromatology, for among the questions considered were various points in connexion with the analysis of brandy and of wines. Partly owing to the omnipresent influence of Dr. Wiley the question of standardization entered into the Section on the Industry and Chemistry of Sugar, where the standard temperature of 20° C. was recommended as the most suitable for taking all polarization readings of raw and refined sugars.

In the Explosives Section several important papers were read on the subject of mining explosions, dealing, for the most part, with the old question of the explosibility of coal dust mixed with air. Among the chief recommendations were the watering of the mines liable to be affected, the replacing of the normal floor in patches by concrete, and the liberal distribution of hygroscopic salts about the mines. Evidence was brought to show that as a result of proper precautions being taken in the Westphalian district the number of mining disasters had very greatly decreased in recent years.

Several papers touching on matters of medical interest were brought before the Section on Inorganic Chemistry and Allied Industries. Mr. G. HARKER described a method for fire extinction and disinfection in ships and in other enclosed places. Briefly, his proposal is to utilize the gases from the ships' funnels, to pump this in large quantities into the holds of a burning vessel, and so to starve the fire of the oxygen necessary for combustion to continue. In support of Mr. Harker's claim that he has invented a suitable apparatus it may be mentioned that a Select Committee of the New South Wales Parliament has investigated the apparatus and recommended that it should be fitted to the salvage steamer used for dealing with outbreaks of fire on ships lying in Sydney harbour. Mr. Harker described some of the very stringent tests applied while his method was still in the experimental stage.

A sensational debate took place on the ionic theory and on how far it could be legitimately applied to explain chemical phenomena. Professor ARRHENIUS spoke energetically in favour of the theory, and Professor ARMSTRONG subjected it to a fire of vigorous criticism.

(To be continued.)

Medical News.

A MEMORIAL to Theodor Schwann, whose name is intimately associated with the conception of the living cell, is to be unveiled at Neuss, his birthplace, on June 6th.

THE annual dinner of the British Balneological and Climatological Society is fixed for Friday, June 11th, at the Piccadilly Restaurant, the President, Dr. Ernest Solly, of Harrogate, being in the chair.

THE Bowman Lecture of the Ophthalmological Society of the United Kingdom is to be delivered by Mr. Nettleship, at 5 p.m. on Friday, June 11th, at 11, Chandos Street, Cavendish Square. Mr. Nettleship will deal with some diseases of the eye illustrating heredity.

THE annual meeting of the Royal Medical Benevolent Fund Society of Ireland will be held in the Royal College of Physicians, Dublin, on Monday, June 7th, at 4.30 p.m. The chair will be taken by Dr. Andrew Horne, President of the College.

THE summer dinner of the West African Medical Staff will take place on Monday, June 21st, at the New Gaiety Restaurant, London. Members of the staff desirous of being present should communicate without delay with Dr. Prout, C.M.G., 78, Rodney Street, Liverpool.

THE East Suffolk County Education Committee has issued two leaflets from the school medical officer, one on vermin in the heads of children and the other drawing attention to the importance of cleansing the mouth, and particularly the teeth, of children.

IT is proposed to establish a medical school in China under the auspices of Harvard University. This step is being taken in response to invitations of the Chinese themselves, among them being His Excellency Tuan Fang, Viceroy of the Kiang Soo. The approval of other Chinese officials has been obtained. A Board of Trustees, which includes such well-known names as those of President Charles W. Eliot and Drs. A. T. Cabot and W. Councilman, has been formed to administer the endowment fund. Ten medical graduates of Harvard are preparing to go to the East to work in the school.

A DINNER of the Glasgow University Club was held at the Trocadero Restaurant, London, on May 25th, when the chair was taken by the Lord Advocate, Mr. A. Ure, M.P. A gift to the club from Dr. C. O. Hawthorne of a silver snuff-box for use in the old Scottish style and fashion at the club dinners was gratefully accepted. The chairman, in proposing the toast of "The University and the Club," described the successful career of the club and its present satisfactory condition. Sir Donald MacAlister, in proposing a toast to "The Guests," referred to Sir Patrick Manson's important services in the sphere of public health work in the tropics. The toast was duly acknowledged by Sir Patrick Manson. After Mr. C. S. Dickson, M.P., had given "The Health of the Chairman" and that gentleman had replied the proceedings terminated.

British Medical Journal.

SATURDAY, JUNE 5TH, 1909.

MILK AND DAIRIES BILL.

THE regulations under which milk is produced and distributed vary in different parts of England and Wales. The requirements of the Dairies, Cowsheds, and Milkshops Orders apply to the whole country. They refer to the registration of dairymen, to water supplies, to the sanitary state of dairies and cowsheds, and to the prevention of the contamination of milk. The Local Government Board can make certain regulations by Orders, but it rests entirely with the authority to decide whether such regulations shall be made. In those districts in which the Infectious Disease (Prevention) Act has been adopted, the sanitary authority possesses the power to prohibit the sale of milk under conditions which are likely to cause the spread of infectious disease. Lastly, the councils of a few of the large county boroughs, including London, have special powers for the prevention of the supply of milk from tuberculous cows.

Those who are engaged in the dairying industry have over and over again urged that this exceptional treatment of particular districts should cease, and this is what the Milk and Dairies Bill, just introduced by Mr. Burns, seeks to provide. An abstract of the main provisions of the Bill will be found on page 368 of the SUPPLEMENT. It may be regarded as a codification of existing enactments and regulations with important additions. The machinery for preventing, without undue delay, the continued distribution of milk which is causing or likely to cause disease will be very much simplified. In cases of urgency, a medical officer of health may require a dairyman to stop a supply of milk for a period of ten days or less, and may agree upon what terms this course should be carried out. Where urgency is not indicated, a prohibition order may be made, on the report of a medical officer of health, by a sanitary authority. From this order there is an appeal to the Local Government Board, or, in certain circumstances, to the Board of Agriculture and Fisheries. An officer appointed by one of the Boards will hear the appeal, and, if he considers the order to have been unreasonable, full compensation will be paid the dairyman.

The clause of the bill which will meet with the greatest criticism is that which empowers the Local Government Board, after consultation with the Board of Agriculture and Fisheries, to make orders for specific purposes. Many of these purposes are quite legitimate, but there is at least one which should be looked upon with suspicion. It is that which places in the hands of the Board the power to say which are the authorities by whom the Orders are to be executed. This might in some conceivable instances involve a question of principle which should not be decided by a Government department.

With the bill as a whole we are favourably impressed, and it may without presumption be claimed that this JOURNAL has had a very large share in preparing public opinion for the introduction of such a measure. The bill would indeed give effect to many of the most important recommendations made as the result of the inquiry into the methods of producing and distributing milk in England conducted by our special commissioner a few years ago. Among the omissions is one which must be regarded as very serious. It is apparently to be administered by the sanitary authorities and by the medical officer of health. One of the reasons why the bill is required at all is that the sanitary authorities have failed to carry out existing Statutes and Orders, and because the medical officer of health feels that if he presses for their enforcement he will be quietly relieved of his appointment. The omission in the bill is a failure to provide for its efficient administration. No greater security against capricious dismissal at the hands of members of district councils who may also be dairy farmers or the friends of dairy farmers, is given to medical officers of health, and, although the county council may take over the duties of a defaulting sanitary authority, it can only do so after a complaint has been made to it by four householders, or by a parish council, or by the sanitary authority of a district in which milk is received from the area of the defaulting district. It is true that the Local Government Board is empowered under certain conditions to make an Order directing an authority to carry out its duties, but the Order can only be enforced by *mandamus*. If an authority is so far neglectful of its duties as to become a defaulter, it will not be alarmed by a threat of *mandamus*. Alternatively the Board may make an Order empowering some person to carry out the duties of a defaulting authority at the cost of the authority. We cannot forget, however, that the Board has possessed this power since 1875 with respect to those sanitary authorities who have made default in providing their districts with sufficient sewers or with a supply of water—but there are still a large number of districts very ill supplied with water and where sewering is urgently needed.

PHYSIOLOGY AND THE UNIVERSITIES.

PROFESSOR MAX RUBNER, whose researches on body heat are famous throughout the world of medical science, recently reviewed the position of physiology in university education in the opening address which he gave at the new Institute of Physiology in Berlin on May 4th.[1] Purkinje, in Breslau, was the first to found a laboratory of natural science; then followed the chemical laboratory which was built for Liebig in Giessen. The Institute of Physiology, the founding of which is coupled with the name of du Bois-Reymond, has a history of fifty years behind it—no more. But what an astonishing outgrowth of physiological science has occurred in that time! Think of the rise of bacteriological research and the separation of bacteriology as a separate science, and the enormous service rendered to man by such discoveries as those of Pasteur, Lister,

[1] *Berl. klin. Woch.*, May 17th, 1909, p. 909. The address has been reprinted in a pamphlet, *Ueber die Stellung der Physiologie in Universitätsunterricht*. Berlin: Hirschwald. Price 60 pf.

Koch, Behring, Manson, Ross, Bruce, Wright, and others, by which the world has been freed from the greater risks and pains of surgery, the heavy toll of diphtheria; taught how to expel malaria, yellow fever, sleeping-sickness from infected lands, a lesson which, learnt and put into practice, has rendered possible the greatest economic revolution of modern days; lastly, by which the world has gained an extension of the vaccination method of combating infection. Think of the extension of physiological chemistry, and the aids to diagnosis and treatment, the exact knowledge which has grown up, for example, about foods, metabolism, and the principles of dietetics. Think of the marvellous unravelling of the structure of the nervous system, and the foundations now laid for the science of neurology; of the rise of experimental pharmacology, the standardization, the discovery of the action and the synthesis of drugs.

If there is one of the numerous offshoots of physiology—shoots which in the last half-century have expanded into new sciences—if there is one which has led to least development when most was expected from it, it is the electrical physiology which seemed to du Bois-Reymond and his disciples the most likely to solve the riddle of life. The discovery of radio-activity has now revolutionized the whole of chemistry and physics, the atomic theory is shaken to its foundations, if not overthrown, and we must recognize henceforth that molecular construction is not the sole basis of metabolism and that other and unknown valences are at work in the living substance. Vast untrodden fields of research lie before us. Professor Rubner draws attention to two dangers of modern times—extreme specialization by which men are trained to work at some little piece of science and never gain that perspective of the whole by means of which great imaginative advances alone can be made. The second danger is the overproduction and publication of books and papers, nine-tenths of which are either rehashes of old material, often by the same pen, or contain accounts of poorly conceived, ill-conducted, and unco-ordinated inquiries carried out to maintain the outward signs of activities of laboratories which are continually being multiplied in number. It is impossible to keep in touch with the literature, to winnow the chaff from the grain, and the only way in which the difficulty can be met is by there being two sets of workers, one which chiefly experiments and has the imaginative faculty to conceive and the handicraft to perform, the other which specializes in some branch and chiefly reads, correlates, and publishes monographs dealing with the experimental advances made. The first group of men would find out what others have done in their line of research from the labours of the second group. The Germans, fortunately, are by nature well fitted to carry out more particularly the work of the second group—to the great content of the scientific world. Men of the first group are rare in any country, for the imaginative faculty is a gift of the gods.

In the new Institute of Physiology in Berlin there are the following departments: Chemical, physical—including photographic, operative, nutrition and calorimetry—bacteriology and microscopy. Much the same kind of division is made in the new Physiological Institute of University College, London, and at Oxford and Cambridge. Professor Rubner points out that suitable provision of instruments, which must periodically be scrapped with advancing knowlege, is as necessary to medical education as armaments are to an army; he also points out that while for theoretical teaching it is no more costly to lecture to a hundred than to one, for practical instruction the cost in apparatus is multiplied a hundredfold. When will the Government of this country recognize this and adequately support our medical schools with grants for apparatus and laboratories, without which the training for the most important service in the country cannot be adequately given?

SPEECH FRIGHT.

EVERY one knows what stage fright is, and most of us who have had to recite speeches at school or have taken part in private theatricals have experienced the unpleasant and often paralysing feeling. It is not the raw novice who suffers most; it might almost be said that the greater the actor, the more frightened he is, especially at a first performance. One of the most celebrated of living actresses used to suffer so much on first nights that it was difficult to keep her from throwing up her part, and one of the most distinguished of living actors is in such a state of nervous trepidation and irritability when he is about to assume a new part that his friends dare hardly speak to him for some days before the first night. Orators are subject to the same infirmity. Cicero confessed that he could never mount the rostrum without a feeling that his knees were giving way under him. In his *Sixty Years in the Wilderness* Mr. W. H. Lucy relates the following examples of similar nervousness on the part of famous speakers of our own day: "On a night in "June in the session of 1877 I observed Bright "seated on the front Opposition bench hour "after hour. The subject was a proposal to "abolish capital punishment, and Bright had "evidently intended to speak, and might, of course, "have chosen his own time. He missed chance after "chance, deferred his rising till after midnight, "when the debate was about to collapse. Chancing "to meet him at dinner the next night I made some "remark about his delayed interposition, when he "told me there had come upon him a species of stage "fright that possesses all new members on first ad-"dressing the House. Even Mr. Gladstone was subject "to this influence. This would be incredible to "observers of his later manner were it not affirmed "by his own testimony. In the diary of his second "session he records how, preparatory to making a "speech, he silently 'offered earnest prayer for "'Divine assistance.'" Lord Beaconsfield, we believe, impassive as he looked, was no stranger to the sensation.

In this country, where platform or post-prandial oratory is forced by national usage or social exigencies on so many reluctant victims, speech fright naturally is common. To some, indeed, public speaking is a task beyond their powers. They need not be ashamed of this. Many of the greatest masters of language might say with Alphonse Daudet, when invited to deliver an address: "Je n'ai jamais pu "proférer une parole devant une audience quel-"conque." But, except to those who deliberately shun social gatherings, there comes a time when they are called on to make a speech. What certain persons go through on such occasions amounts to

agony, and their hearers suffer in sympathy or are irritated by their struggles. Charles Darwin tells us that, when he was a student at Edinburgh, "one evening a poor young man got up, and after "stammering for a prodigious length of time, blushing "crimson, he at last slowly got out the words, 'Mr. "'President, I have forgotten what I was going to "'say.' The poor fellow looked quite overwhelmed, "and all the members were so surprised that no "one could think of a word to say to cover his "confusion."

We have received a piteous appeal from a medical practitioner on behalf of a patient of his who occasionally has to speak in public, and who suffers at such times from "extreme nervousness and "an 'all gone' feeling accompanied by palpitation" —in short from the symptoms of speech fright. The question is, Can medical art give relief in such a case? Our experience is that in many cases it can. In the particular case referred to, the administration of 20 grains of potassium bromide an hour before the dreaded moment has not been of much use. Our correspondent asks if a small hypodermic injection of morphine, not sufficient to cause drowsiness, would do good. We have no experience of this treatment, but it is within our knowledge that the great actress who has been mentioned was enabled to face the trying ordeal of the first night by means of seven drops of laudanum. She learnt to rely confidently on this medicine, which never failed of its effect. As the drug was given only on these special occasions she never contracted the opium habit. Years after learning empirically this method of preventing stage fright, we read that John Hunter, who disliked public speaking, never gave the first lecture of his course without nerving himself for the trial by taking thirty drops of laudanum; this gave him courage to face his audience. We think it likely that laudanum is used as a preventive of stage fright more frequently than might be supposed. Lord Erskine, the celebrated advocate, who suddenly appeared in the course of the trial of Queen Caroline, disconcerted the prosecuting counsel, for a great speech was naturally expected; after saying a few words, however, he fell into the arms of Lord Stanhope, who was sitting next to him. As Erskine was an old man at the time, it was thought that the strain and the excitement had proved too much for him. The truth, however, appears to be that he had drugged himself for the effort with opium, and had taken an overdose. Our readers do not need to be told that this method of conjuring away speech fright must be used with the strictest precautions against abuse.

We have seen it stated that an American professor was in the habit of giving 10 drops of fluid extract of gelsemium three times a day to students about to offer themselves as a sacrifice to examiners; the effect is said to have been that "all feeling of uneasiness was "abolished during the ordeal, and the students were "able to tell just what they knew." This treatment would equally well apply to speech fright, but we cannot testify to its efficacy from personal knowledge. As it is harmless, however, it might be given a trial. The very worst method of preparing oneself to speak in public is the arousing of "Dutch courage" by means of alcoholic stimulants.

As speech fright is a common affliction, and may seriously interfere with a man's success, we have thought it worth while to discuss the subject. Perhaps some of our readers will give us the benefit of their experience.

THE MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE SOCIETY.

The Medical Sickness, Annuity, and Life Assurance Friendly Society is well known to many of our readers. Its objects are described in the rules as the payment of a weekly allowance during sickness or disablement, of quarterly sums in old age, and of sums on the death of a member. The scope of the society's business, however, was restricted by a resolution passed in 1894, when it was decided to undertake no new liabilities under the heads of life assurance and deferred annuities, and its main scope now is provision for sickness or disablement.

The quinquennial valuation of the society's assets and liabilities as at December 31st, 1908, has been made by the secretary, Mr. F. Addiscott, F.I.A., and his report is now before us. In making the valuation the mortality and sickness tables of the Manchester Unity of Oddfellows have been used, and the rate of interest assumed has been 2½ per cent. for the sickness fund and 3 per cent. for the life assurance and deferred annuity funds.

The number of persons assured against sickness has grown from 2,231 in 1903 to 2,682 in 1908, and the gross premiums have increased from £15,151 in the former year to £18,774 in the latter. The amount of the sickness fund stands at £323,625, as compared with £259,496 five years ago.

Notwithstanding the stringency of the basis of valuation of this fund, the results shown are satisfactory. The experienced sickness was less than the expected sickness by 3 per cent., and a surplus of £9,040 exists in the fund. It is, however, pointed out that this surplus has not arisen entirely during the past quinquennium, but is due to the allotment to the Sickness Fund of its share of the accumulated savings of the Management Fund. We refer below to the position of this latter fund.

During the five years ending 1908 the number of chronic cases of sickness—that is, of members who are permanently incapacitated — has just doubled, having grown from 23 in December, 1903, to 46 on the last day of 1908. All these persons are entitled to substantial annuities until they reach the age of 65. At each valuation of the society's funds a large extra reserve is stated to be made in respect of these chronic cases, for the Medical Sickness Society is almost alone among assurance institutions in making a feature of this class of business.

The Life Assurance Fund is being gradually reduced as liabilities are discharged, and will eventually disappear altogether. At the date of valuation there were 161 members, as compared with 191 five years ago. A surplus of £4,303 has been found to exist in this fund, the amount of which stood on December 31st, 1908, at £22,670.

The Deferred Annuity Fund is not in quite so happy a position. Like the Life Assurance Fund, it is approaching a moribund condition, the number of members being 378, as compared with 435 at the previous valuation. A deficit of £702 was found to exist in this fund in 1903, and this has increased to £2,781 in 1908. The present deficit is more than covered by the Investment Reserve of £4,033 (5 per cent. of the fund), and is not considered by the Secretary to be large as compared with the funds in this branch. Whether this fund will ultimately prove sufficient to meet all claims is a question which only the future can determine, and depends to a considerable extent on the price of securities and the rate of

interest earned. It is by no means improbable that future movements of prices may be in an upward direction, in which case the deficit may be reduced or disappear altogether.

In accordance with the rules of the society, 10 per cent. of the full premiums is placed to the credit of the Management Fund. The actual cost of management, however, is little more than 5 per cent. of the premiums received, and there is now an accumulated balance of £14,382 in this fund. This balance has been divided *pro rata* among the three benefit funds, and, as stated above, accounts for nearly the whole of the surplus in the Sickness Fund.

Bonuses are recommended to be granted as follows: To every sickness member reaching the age of 65 during the current quinquennium, £10 10s. for every £1 1s. per week of sick benefit which he has secured during his membership; and, in the life assurance branch, an addition of 15 per cent. to all assurances which become claims during the present quinquennium. The bonus to sickness members is the same as that declared in 1904; that in the life assurance branch is 50 per cent. higher than the bonus declared five years ago.

In addition to the printed valuation report, we have been furnished with a list of the society's assets as at the date of the valuation. These are made up of £104,062, loans to various local authorities (over forty in number); £116,215 invested in Corporation, Colonial Government, and railway stocks; and £3,716 cash at bank and in hand. It is satisfactory to notice from the prices at which the stocks stand that the society is at present earning interest on its investments at rates which are well above those assumed for the purposes of the valuation. A report of the annual general meeting of the society on May 27th is published at p. 1371, where many of these facts will be found, but it has seemed well to call special attention here to the result of the quinquennial valuation; it shows that the society is in a sound financial condition.

With regard to life assurance, which the Medical Sickness Society is giving up, it may be added that the Medical Insurance Committee is able to arrange with an old and well-established office for life insurance for medical men on specially favourable terms, particulars of which can be obtained on application to Mr. Guy Elliston, the agent of the committee, at 429, Strand, W.C.

A "HOSPICE" FOR HEALING BY PRAYER.

WE learn from the newspapers that a "hospice" for the practice of "healing by prayer and the laying-on of "hands" has been opened in London. The "hospice" has been established under the auspices of the Society of Emmanuel, the President of which is Mr. J. M. Hickson, whose name doubtless is by this time familiar to some of our readers. Among those present at the opening ceremony was Dr. Mylne, formerly Bishop of Bombay, whose account of the cure of a remarkable case of cancer—which was clearly proved not to have been a cancer—was quoted in the JOURNAL of May 22nd, p. 1253. Mr. Hickson was good enough to state to a representative of the *Daily Chronicle* that he has no antipathy to doctors; indeed, the hospice is to have two doctors on its staff. The healer thinks it is always desirable that the complaint from which a patient is suffering should be properly diagnosed; he likes to know the seat of the trouble. Why a doctor should be needed to make the diagnosis before the prayer can be effectual seems a trifle mysterious; we do not wish to be profane, but it almost seems as if Mr. Hickson believed that Providence required to be told the nature of the case before the prayer of the healer can be answered! Mr. Hickson is reported to have said that he has another case of "cancer of the throat" under his care; the patient had undergone two operations before going to him, and is now apparently getting well. It is not clear whether the improvement is due to the surgical treatment or to the prayers of Mr. Hickson; however that may be, we should be glad to have full particulars of so interesting a case. But we doubt whether they will be forthcoming. In the *Evening News* we find an account of the cure of a cancer, which was furnished by a lady member of the society. The patient was a Bishop of the Church of England. "The doctors abandoned all hope of a "cure." Then Mr. Hickson took the case in hand. He "arrived on the morning of a day on which the "sufferer had to undergo an operation. Mr. Hickson "prayed with him and anointed him, followed by "a laying-on of hands. In the afternoon the "surgeon arrived and made his examination. He was "greatly surprised. 'This case puzzles me,' he said. "'There is the mark of a new wound, but the cancer "'has gone.'" "The cleric in question," added the lady, "is now perfectly well, and was with us the "other day, but I believe the surgeon has not yet "recovered from his surprise." We confess to sharing his surprise; we should have expected the prayer cure to work without making a wound. It is sometimes alleged that surgeons are too fond of the knife, but, granting that prayer may be more effectual, it would appear to act by the same method. Surgical prayer is surely a novelty even in spiritual healing. Once more we invite Mr. Hickson to give particulars of his cures sufficient to allow them to be tested in accordance with the ordinary rules of evidence. We do not wish to be understood as denying the power of prayer in relieving sufferers; without trespassing on the domain of theology, we need only say that to any one who knows the influence of the mind on the body, it is easily conceivable that an earnest prayer may bring about its own fulfilment in certain cases by the very intensity of the suggestive force which it calls into play. But we feel it our duty to point out that Mr. Hickson and the members of his society take upon themselves a heavy responsibility when they claim to have cured cancer and other organic disease without vouchsafing anything in the nature of proof.

THE TUBERCULOSIS EXHIBITION IN LONDON.

THE Tuberculosis Exhibition arranged by the National Association for the Prevention of Consumption was opened at the Whitechapel Art Gallery by the President of the Local Government Board on June 2nd. Mr. Burns delivered an interesting speech, which in its earlier parts was much interrupted by suffragettes. After they had been removed he proceeded to develop his thesis that while very much had been done to reduce the amount of tuberculosis in the country it is still a terrible drain on human vitality, especially during the working years of life, for 56 per cent. of the total deaths from consumption occurred between the ages of 20 and 45 years—the prime of life physiologically, economically, and reproductively. One-seventh of the total deaths among members of friendly societies was, he said, due to this cause, from 25 to 30 per cent. of all deaths between the ages of 20 and 45 in many large friendly societies being due to tuberculosis. That, Mr. Burns

said,' meant wages wasted, contributions dissipated, and homes destroyed; one out of every three widows under 65 was either on the Poor Law or on some public fund, and it was difficult to estimate the economic waste and the loss to society, to relatives, to trade unions and friendly societies by the sickness, death, and disability which tuberculosis caused. Speaking generally, the disease was the child of poverty, the daughter of ignorance, the offspring of drink, and the product of carelessness. The statistics of London alone proved the truth of this, for whereas the general death-rate from consumption in London was 132 per 100,000, it was only 78 in Hampstead, but 215 in Finsbury with its one and two roomed tenements, its low wages, and its irregular work. London was saved from a worse position, and compared favourably with Berlin because of its system of small houses, but to obtain further improvement workmen must realize that to reciprocate the advice of a doctor, the State and the municipality, and of associations like the National Association for the Prevention of Consumption, they must spend their wages more wisely, selecting better food and paying higher rent, and also they must learn better to utilize the space at their disposal. The workman's front parlour was a fetish, a mausoleum for wax fruit, stuffed birds, and china dogs, which the children dare not enter, and where even the father would be a trespasser. If it was used it would add 25 per cent. at least to the breathing space of every workman's home. In new houses being built in London damp and dirty basements would not be found, and the intolerable cellar dwelling was doomed; wherever there was little light, damp air, dirt, and laziness, consumption found its lair, and in his judgement a good kitchen was the best pharmacy, a good table the best doctor, and cleanliness the best cook. He hoped soon to follow up the Notification of Tuberculosis Order by a circular to Poor Law authorities dealing with the conditions under which relief should be given to outdoor consumptive paupers, suggesting methods of self-treatment, and extending help in the direction of cure and prevention. Consumption was a house disease, almost a bedroom disease, and for its elimination he looked to higher wages, with wiser spending, less drink, and less betting, the money being spent on giving the wife and family better food and more house room. It was true that Parliament could do much, and municipalities could do more, but the individual could do more than both by personal attention. A vote of thanks to Mr. Burns was moved by Sir John Brunner, and seconded by the Mayor of Stepney, the Hon. Harry Lawson. Afterwards the company inspected the exhibition, which contains many interesting models, pictures, and diagrams, including one of an open-air school for consumptive children; there is also a collection of pathological specimens showing the effects of tuberculosis on various tissues and organs.

THE DANGERS OF SPINAL ANAESTHESIA.

AT least 33 cases have been published in which paralysis of an ocular muscle has followed the injection of local anaesthetics into the spinal cord. In most of these examples the sixth pair was affected, in one case the fourth, once the third and sixth together, and in one patient there was complete ophthalmoplegia externa. The paralysis of the sixth nerve has, except in two cases, been unilateral. It makes its appearance from the fourth to the twentieth day, and usually disappears in from five to forty days. In one case published by Vossius it lasted for six months. The complication is not very rare. Ashe gives the figures as 4 in 400 anaesthesias, or 1 per cent. Werner and Degreave as 2 per cent., Chapat and Pascalis as 1 in 258. Ricchi, of Boulogne, now adds another case to this long list.[1] The patient, a woman, received an injection of 2.5 c.cm. of a 4 per cent. solution of novocain for an operation upon the foot. Diplopia appeared two days later, and a squint developed. The paper is somewhat obscure as to the duration of the trouble, but it was more than twenty days.

THE FUNCTION OF THE PROSTATE.

THE physiology of the prostate gland can scarcely be said to be a closed chapter. The biological and chemical characteristics of the prostatic secretion are little understood, and apparently few physiologists have been able to determine the essentials of a healthy gland as opposed to one whose functions are impaired. The connexion between the prostate and the testes has long been recognized, and indeed in the last decade of the nineteenth century this was made the basis of operative treatment. Prostatic hypertrophy was treated freely by castration, but apparently with unsatisfactory results. With the development of the operation for the extirpation of the gland, the importance of the exact functions of this organ becomes evident. It is, therefore, a highly satisfactory circumstance that Professor C. Posner[2] has considered this subject from its scientific point of view. He started with the idea that, as in the case of the thyroid, the physiological importance of the prostate might be deduced from the symptoms noted after the complete removal. The matter, however, proved to be less simple, since those persons who are subjected to prostatectomy are usually advanced in years, and since the prostate gland is intimately connected with the sexual life, the loss of functional activity would not be apparent in persons who had lost this function as a result of increasing age. In a few cases in which sexual potency existed up to the time of the operation its loss may reasonably be ascribed to an accidental or unavoidable disturbance of the efferent ducts. That the prostate has nothing to do with the complete closure of the bladder is clearly shown by the results of prostatectomy, as well as by the experience of eunuchs, in whom the prostate atrophies early in life. Animal experiment has been resorted to to throw some light on the problem, and Posner states that although the work of Disselhorst, Steinach, Albarran, Serralach, and Pares cannot be accepted as bringing absolutely convincing proof, it may afford a basis for acceptable hypothesis. With regard to the relation between the vesiculae seminales and the prostate it appears that when the one is small or absent, the other takes on a compensatory growth. Removal of the seminal bladder and prostate in dogs, rats, and other animals, leads to interruption in the production of semen and abrogates sexual appetite. Feeding with prostate substance, however, stimulates these lost functions. The spontaneous reappearance of sexual power and semen containing spermatozoa which has been observed in a few cases after prostatectomy must be ascribed to the growth of traces of gland left. Posner therefore accepts the hypothesis that the prostate is a gland with an internal secretion, and that its functions are definitely of a sexual order. Professor Posner finds that diagnostic puncture of the testes, which he and Cohn have introduced, may be useful in deciding the question whether spermatozoa are formed and merely prevented mechanically from appearing in the ejaculation. He has observed a number of cases of true

[1] *Recueil d'Ophtalmologie*, February, 1909.
[2] *Berl klin. Woch.*, November 2nd, 1908.

azoöspermia—that is, cases in which no sperm cells can be found in the puncture fluid—and found that the prostate gland in these cases was small, atrophic, or aplastic. This would mean that the prostate had been developmentally inhibited simultaneously with the testes, or that the cause lay in the prostate itself. Although he is not in a position to produce definite evidence in support of his contention, he believes that many of these cases result from a previous prostatitis, whether gonorrhoeal, due to a colon bacillus infection, or of the type spoken of as "aseptic." Stern has found that chronic prostatitis is just as common a complication of diabetes as hypertrophy of the prostate. It might be of use to treat such cases with prostate substance or spermin. The results of implantation of prostate after extirpation of the gland, which Haberer is carrying out, may supply corroboration of this view. In conclusion, Professor Posner deals with the analogy between the prostate and the "rut" glands of some mammalian animals. It has been shown that the substance possessing the sexually stimulating smell in the hedgehog is derived from the prostate and not from the cloacal glands, as in the majority of other animals. In this respect, the function of the prostate would be less important to man than to the lower animals, and the stimulating quality of the prostatic secretion would be comparatively rudimentary.

INTERSTITIAL ECTOPIC GESTATION.

GESTATION in the portion of the Fallopian tube which passes through the uterine wall, known as interstitial or tubo-uterine pregnancy, is specially dangerous, as it is liable to early rupture, and gynaecologists teach that a pregnancy of this kind cannot proceed to term. Mr. Carr Roberts turned attention to this form of gestation in a report in the JOURNAL, vol. ii, 1882, p. 736, where he described a typical acute fatal case. The uterus and appendages were presented by Mr. Carr Roberts to the Museum of the Royal College of Surgeons, and were figured and described with notes on other cases in the museums of hospitals in London, by Mr. Alban Doran in the twenty-fifth volume of the *Transactions of the Obstetrical Society of London*. The specimen is figured in Bland-Sutton's and Hubert Roberts's well-known textbooks. Much has been learnt since Carr Roberts's case appeared in our columns. In a discussion on a memoir to which we will presently refer, Lovrich stated that there is a specimen in the museum of the University of Budapest illustrating an instructive case of interstitial gestation. The patient had died suddenly from rupture of the sac, and the midwife who attended her was accused of criminal abortion. Von Kubingi reported an instance in which a woman died in the fourth month after the uterus had been cleared of an "abortion," but at the necropsy ruptured interstitial gestation sac was discovered. This discussion followed the reading by Dr. Windisch of a case in which interstitial gestation continued after death of the fetus at term.[1] He had enjoyed the great advantage of observing the pregnancy from the fifth week to the eleventh month. A healthy woman aged 25, who had already borne children, consulted Windisch at the end of September, 1906, for crampy pains and haemorrhages ten days after the period was due. She appeared to be about five weeks pregnant, and was advised to be careful lest abortion should set in. The pregnancy, however, went on undisturbed, and the fetal movements were first felt in the middle of December. The patient expected her confinement at the end of May, 1907, but false labour pains set in, and the fetal movements ceased. There was much milk in the breasts in May. Then the abdomen grew smaller. Windisch suspected gestation prolonged over term, and operated on July 27th, 1907. He removed a big fetal sac containing a macerated female fetus over 20 in. in length. This sac encroached on the right cornu of the uterus, a portion of the uterine cavity was laid open, when the sac was removed and the breach in the uterus was closed by sutures. Windisch insisted that the gestation had primarily developed in the uterine portion of the right Fallopian tube, and brought forward microscopic evidence supporting his view. He considered that the isthmic and ampullar part of the tube had slowly dilated and allowed more room for the fetus. Tauffer, in discussing the case, agreed about the primary seat of the ectopic gestation, but considered that the sac had ruptured and a secondary abdominal pregnancy developed. He denied that the Fallopian tube ever dilates beyond the limits of the fetal sac, and most gynaecologists will, we suspect, agree with him. Several specimens illustrating early rupture of an interstitial sac have been added to museums in London since Carr Roberts's paper appeared in the JOURNAL, but the case above related is of special interest and should not be forgotten.

[1] Report of meeting of the Gynäkologische Sektion des Kgl. ungar. Aerztevereins, *Zentralbl. f. Gynäk.*, No. 19, 1909, p. 655.

MEDICAL TESTIMONY AS TO CHRISTIAN SCIENCE.

IT is by no means easy to bring the "testimonies" of healing by Christian Science to the touch as the accounts of its cures are generally so meagre and so vague that they cannot be accepted as proving anything but the credulity of the witness. It is interesting, therefore, to get some evidence that offers prima facie assurance not only of good faith, but of such knowledge of disease as to make the testimony worth considering. One of the medical men who have abandoned their profession to follow Mrs. Eddy is Mr. Walter Wilding, M.R.C.S., L.R.C.P., sometime medical officer of health for Hindley, Lancashire. Writing in the *Onlooker* for March 28th, 1908, he states that he had periodically under his care for six or seven years a case of valvular disease of the heart complicated with diseased conditions in other organs, the ravages of each year leaving the patient in a worse condition, until a fatal termination appeared terribly near. "At this stage "of apparent helplessness and hopelessness," Mr. Wilding goes on to say, "the prayers of a Christian "Scientist were called for, and through them the "patient was healed. The healing was complete, has "been permanent, and the life has since then been "one of great physical energy and activity, full "of brightness, happiness, and joy. A Christian "Scientist healed it by a purely mental process, "by that understanding of the efficacy of prayer "typed by Jesus at the tomb of Lazarus: 'Father, "'I thank Thee that Thou hast heard Me'—the prayer "of faith—the prayer that knows the availability of "the omnipotent power and goodness of our Heavenly "Father—God, from whom man derives all he is." Mr. Wilding adds that while still practising medicine he witnessed the healing by Christian Science of several other cases of disease. "One was a young "man, whose knee-joint was quite disorganized by disease to little more than a pulp, "and the surgeons of one of our largest hospitals "urged that the knee-joint be cut out completely, as the only remaining hope of saving "his leg. Dreading this, he turned to Christian "Science, and was healed instantaneously." Mr.

Wilding says he examined the knee the day before and again the day after the healing, and, finding the cure perfect, it brought him to a crucial (*sic*) conviction that Christian Science is able "to improve on "surgery as well as on medicine." He has seen "consumption healed in more than one case, the "failing sight of old age return, paralysis in various "forms disappear, a fracture of the large bone "of the lower leg, after being ununited for four "months, knit firmly together without any splint, first "the crutch, next the stick, and, lastly, the 'limp' "being discarded, and all in a fortnight." Mr. Wilding states, further, that Christian Science has brought seven years of health, strength, and freedom to his daughter in exchange for a condition of tuberculous disease in joints and lungs, which was rapidly carrying her to a grave. Now, we do not for a moment call in question Mr. Wilding's professional competence. He speaks with evident candour of that which he thinks he has seen. But if the events which he narrates really happened, we have got far beyond the region of suggestion and have entered the domain of the frankly miraculous. To the instantaneous *restitutio ad integrum* of a joint destroyed by disease there is scarcely a parallel to be found in the records of the most famous shrines of healing. Mr. Wilding's other cases, though wonderful enough, are not so entirely beyond human experience. But as to all of them our attitude is that of Dr. Johnson with regard to the immortality of the soul. When asked if he did not think there was evidence enough, he replied: "Sir, I should like to have more." Doubtless Mr. Wilding could easily supply more evidence of the cases which he relates; it would be interesting to the profession and useful to mankind if he could see his way to report the cases with all the details required in a medical report.

MINER'S NYSTAGMUS.

This important disease was the subject of a paper by M. Romiée (Liége) to the Belgian Ophthalmological Society.[1] Last year the society devoted a whole sitting to a discussion on the same question,[2] which was duly abstracted in this Journal. M. Romiée's paper was an acrimonious polemic against M. Dransart, and the discussion which followed was evidently of a heated and personal character. The following data are, however, to be gathered from the papers read and the facts adduced by surgeons who joined in the discussion: (1) Miner's nystagmus is essentially a disease of the collier. (2) It is not found among miners in metal mines, who, equally with the collier, work in a bad light, and often in a cramped position, and who are obliged, as is the collier, to work with the eyes constantly elevated above the primary position. (3) It is never seen among boiler makers and repairers, who also work in a bad light, and in an even more strained position than the collier. (4) It is not more prevalent in gassy mines than in those free from firedamp. (5) Workers in photographic factories, who often work for hours in a feeble monochromatic light, and, where isochromatic plates are being made, in absolute darkness, never under any circumstances develop nystagmus. (6) The disease first appeared, or rather began to be described, at the time when the Davy lamp was introduced—that is to say, when the miner's light was reduced in intensity from 1 to 0.28. The lamps improved rapidly, the ordinary lamp now in use in Belgium—the Mueseler—giving a light of 0.44 candle power, and the Wolf benzine lamp 0.87. (7) With the improvement in mining conditions, better ventilation, better light, and shorter hours of labour, the incidence of the disease shows a tendency to diminish. (8) It takes some years for the disease to develop, it being unknown in young miners. (9) About 20 per cent. of all colliers working underground are affected in a greater or a lesser degree, but only a small proportion of these men are incapacitated from work. (10) Hemeralopia is not a symptom of the disease, as has been stated by Court, Dransard, and others. If these statements are to be accepted as correct, then it would appear that nystagmus is not caused by position or by direction of regard alone, nor can it be due to feeble illumination alone, as Romiée, Dransard, and others believe. Nor can the nystagmus be due to the action of the position on the semicircular canals. It appears that it is not inhibited, as Peters supposed, when the head is thrown back, unless at the same time the eyes drop. The only condition which remains over which is peculiar to colliers is the dead black surface with its crystalline fracture, and its myriad facets, which reflect and disperse the light in every direction. This environment is not present in the metal mine nor in the photographic dark room. It must in some degree be one of the causal factors. The *Bulletin* contains many statistics regarding the candle power of various safety lamps, which are of value to those interested in these lamps.

[1] *Bulletin de la Société Belge d'Ophtalmologie*, No. 25, 1908.
[2] Ibid., No 24.

METHOD IN DIAGNOSIS.

Every one must often have felt discouraged by his failure to arrive at a correct diagnosis or indeed any diagnosis at all in cases which, regarded in the light of subsequent events and more highly-trained skill, appear perfectly simple. This loss of self-esteem is, of course, more frequently experienced by young practitioners who have not yet acquired the philosophical temper which comes with years and experience. It would be charitable to warn them at the onset that they will find diagnosis difficult or for the time being impossible in a not inconsiderable proportion of cases, while in a certain proportion the diagnosis at which they arrive will turn out to be wrong with consequent mortification and heart burning. From this point of view a lively correspondent suggests that the practice of medicine presents some resemblance to a game at billiards. If a man wish to learn to play well he must practise with more skilful players, and their services may not always be available. The great thing in medicine as at billiards is to be able to make sure of ordinary shots, and success cannot fail to accrue to the practitioner who never overlooks a lesion which he might reasonably be expected to recognize. If he will only make sure of this, if he will keep his standard of efficiency up to this by no means exorbitant level, his inability to accomplish feats of diagnosis need not disturb his peace of mind. There is, of course, no objection to his practising these strokes in his leisure moments, but he may miss them and still win the game. Gull used to say that mistakes in medicine are caused far more frequently by want of care than by want of knowledge, and want of care may usually be interpreted as want of method. Method in an observational science like medicine is what honesty is in daily life—a safeguard against wrong-doing. It should be cultivated for its own sake, without allowing discouragement at the occasional paucity of results to militate against its application. Then, in cases in which a consultation becomes necessary, the practitioner will not infrequently find his hesitation shared by the consultant; for in scientific medicine there can be no confident decision in the absence of the necessary data.

THE TENDER SPOT IN APPENDICITIS.

THE significance and diagnostic value of a tender spot in association with appendicitis was discussed by Lejars a year ago, and Papin has recently analysed the views of various surgeons on this subject.[1] McBurney's spot, these French observers consider, indicates "an exaggerated precision" on the part of the surgeon after whom it is named, but they rightly add that his opponents go too far in the opposite direction in denying any appreciable value to this sign. It is certainly not pathognomonic of appendicitis; it is often absent in cases of that common disease, and may be present when the appendix is in its normal condition. In appendicitis pressure on McBurney's spot may cause pain referred to the umbilicus or epigastrium; whilst a tender area away from the "spot" is often observed when the inflamed appendix lies in its natural situation. Sonnenburg, Keith, Lanz, and Schröder make out that the "spot" corresponds more frequently to the ileo-caecal valve than to the base of the appendix; Keith, indeed, found that the base or point of insertion of the appendix lay about an inch below the "spot." Schröder, when assistant to Lanz, noted the tender spot in 119 cases operated upon by that surgeon. Within a few months 93 of the patients had no more tenderness over the "spot," but in the remaining 26 this was still tender on pressure. Lennander points out that as the abdominal viscera have no sensitive nerves, the parietal peritoneum is in appendicitis the seat of pain, most probably due to lymphangitis, or to adhesions involving the parietal peritoneum, and argues that on this account the tender spot cannot be well localized. Morris describes a tender point 4 cm., or 1½ in., from the umbilicus on a line drawn from the umbilicus to the iliac spine, and ascribes the tenderness to the effect of cutaneous pressure on the right sympathetic ganglion, which lies at this level. Often the pain in appendicitis is due to tension of the caecum distended by gas. Rovsing and Max make a diagnostic point of this fact. They press the caecum, and continue the pressure upwards along the ascending colon so as to drive the gas into the lower bowel; and this process is only painful when there is some caeco-appendicular affection. Lejars concludes that the careful clinical study of tender points is useful, but that no "spot" is pathognomonic. "Appendicitis," he warns us, "is "not a disease to be diagnosed by the tip of the "finger."

THE PRISON COMMISSION.

LORD ELGIN'S Committee on Scottish Prisons, which reported in 1902, expressed a very strong opinion that the presence of a medical member on the Prisons Board would greatly improve the administration and increase the confidence of the public. The recommendation was similar to that made with regard to England and Wales by Mr. Herbert Gladstone's Committee in 1895, and by the Grand Committee of the House of Commons on the Prisons Bill of 1897, to which the then Home Secretary gave effect on the first opportunity, and was similar also to that of Lord Cross's Commission on Irish Prisons, which resulted in the appointment of a Medical Commissioner. Lord Elgin's Committee was much impressed by the fact that in the great majority of instances in which difficulties have arisen in the management of prisons questions have been involved needing for their determination experience in medical requirements and practice. The recommendation has not been carried out in Scotland, which as a rule is able to boast that it precedes the sister countries in administrative reforms. An opportunity, however, is now afforded to the Secretary of State to carry out this improvement, inasmuch as the chairmanship of the Scottish Prison Commission is now vacant. There was for long a kind of tradition that retired military officers made sufficiently good prison administrators, but this theory, which has not, so far as we are aware, been entertained outside the United Kingdom, has been condemned by results, and is now generally discarded. It is, therefore, very much to be hoped that, in the interests of efficiency, Lord Pentland will take this opportunity of carrying out the recommendations of Lord Elgin's Committee.

[1] *Semaine Médicale*, March 11th, 1908; and *Rev. de Gynéc. et de Chir. Abd.*, January-February, 1909, p. 124.

ON June 8th Convocation of the University of Oxford will be asked to make a decree gratefully accepting the gift of two sums of £2,500 each from Dr. C. Theodore Williams, who is an Honorary Fellow of Pembroke College, for the encouragement of the study of physiology and anatomy respectively. It will be proposed to establish two scholarships in physiology in relation to medicine, tenable for two years, one to be awarded in each year, and to establish one scholarship in human anatomy tenable for two years, to be awarded annually.

THE report of the Medical Officer of the Local Government Board for England for 1907–8 was issued this week. It contains the usual general articles on the administrative business of the department, on vaccination and the Government lymph establishment, on plague, and on cholera. The scientific investigations include an inquiry into the bacteria of sewer and drain air by Dr. Andrewes; on the defensive mechanism against pyogenic infection, by Drs. Andrewes and Horder; on the defensive mechanism in meningococcus infections, by Drs. Horder and Gordon; on mastitis in cows in relation to human sore throat, by Dr. Savage; and on *Streptococcus faecalis* and its endotoxin, by Dr. Sidney Martin.

General Medical Council.

NOTES.

The Business of the Council.—The General Medical Council concluded its session on Tuesday evening, at about 8 p.m., but it would not be quite correct to say that it had concluded its business by that hour. The greater part of the time of the Council during this session was occupied in hearing and considering two charges against medical practitioners, the one a charge of covering and the other of improper relations with a female patient—the decision in both cases being in favour of the accused practitioner—and in adjudicating on a rather long series of cases reported by the Dental Committee. There can be no doubt that the system rendered possible under the Dentists Act of making the Dental Committee a court of first instance, and the whole Council a court for final decision, very greatly economizes the time of the Council without in any way prejudicing the accused. Had this procedure not been in force, it is probable that the session would have occupied another day, or perhaps two. The Council did not sit on Monday—a bank holiday in England and Ireland, though not in Scotland, a circumstance which we believe aroused some dissatisfaction in the breasts of Scottish members. The reason for following this course, however, was, as we gathered from the President's address, that the printing establishment on which the Council depends for its daily programme and other necessary papers was closed on bank holiday, although, from our knowledge of the manners and customs of printers, we apprehend that this difficulty might have been overcome had the duration of the disciplinary inquiries been foreseen. As it was, several matters of general interest to the profession were inadequately dis-

cussed; in this connexion special reference may be made to the report of the Education Committee, which was really not discussed at all. We are glad to observe that the Council decided that the report of this committee should be on the agenda for the first day of its next session, which will commence at the end of next November.

Changes in Membership.—The death of Dr. Lindsay Steven, the representative of the Faculty of Physicians and Surgeons of Glasgow, and the retirement, on account of ill-health, of Dr. Pye-Smith, the representative of the University of London, and of Professor Young, the representative of the Victoria University of Manchester, led to the introduction of three new members: Dr. Knox, Dr. Frederick Taylor, and Professor Dixon Mann. This again led to certain alterations in the constitution of the committees, and it will be noticed with satisfaction that one of the direct representatives for England and Wales, Dr. Langley Browne, was elected a member of the Executive Committee, which may properly be looked upon as the most important committee of the Council since it meets on stated occasions at intervals between the sessions of the Council, and has most important functions in carrying on the work of the Council during these intervals and in giving general supervision to the preparation of business for the next ensuing session.

The Curriculum for the D.P.H.—During the session of the Council last November, Professor Thomson, the representative of the University of Oxford, drew attention to the regulation with regard to the Diploma in Public Health, which, while it laid down a curriculum of nine months, required an interval of one year before the candidate could present himself for examination, and argued that this was a hardship, especially to those graduates who might wish to proceed without delay to the Colonies. The point was referred to the Public Health Committee, which at this session presented a report strongly advising the Council not to alter the existing regulations. The main reason assigned was that the D.P.H. being a higher and post-graduate qualification, and one which had always been regarded in the light of an honours qualification, a sustained course of study was necessary and an interval of at least twelve months was commonly demanded by examining bodies between a pass examination and that for a higher qualification. It was pointed out further that the regulation is relaxed in the case of senior members of the profession, especially military and colonial officers serving abroad, who were permitted to complete their course in nine months. The Committee, however, considered that to extend this indulgence to junior candidate would be a retrograde step. Professor Thomson still adhered to his view that the regulation was unnecessary and even foolish, and met with a good deal of support, but the President pointed out that to carry out the curriculum adequately twelve months were still necessary, although, owing to a great deal of pressure, the Council had consented to the two half-years being telescoped, so that the curriculum could be completed in nine months. The view that it would be inexpedient to alter the period or alter the duration of the curriculum by recognizing the overlapping of the two periods of six months as a rule, prevailed, an amendment to refer back the report to the Public Health Committee was lost, and the report was approved.

Apothecaries' Hall in Dublin.—This body, through its representative, Dr. Adye Curran, announced that, notwithstanding the adverse expression of opinion by the General Medical Council, it was about to institute examinations of its own in preliminary general education, urging that it suffered by students who had taken their preliminary examinations under the auspices of the Royal College of Physicians and Surgeons in Dublin being thereby inclined to go to those bodies for their diplomas. The Council has no power to stop the Hall from carrying out its intention, which the President described as a purely domestic arrangement, as the examination was not recognized by the Council, and need not be accepted by any other licensing body. The perennial question of the reports upon the examinations of this body was raised also, and it was urged that under the terms of the Act it was illegal for surgical examiners appointed by the Council to report to it, but that their functions were limited to the conduct of the examination. This point, it was urged, was emphasized by the fact that the new examiner in surgery is Sir Thomas Myles, a member of the Council. Reference was also made to the old Act of Parliament giving powers to the Apothecaries' Hall of Dublin, which elicited from Dr. Little, who also read from a copy of the Act, that the functions now assumed by this body were widely different from those laid down in the Act referred to.

Administration of Anaesthetics for Unregistered Dentists.—More than ten years ago, on December 1st, 1898, the Council adopted a resolution stating that: "Any registered medical practitioner who knowingly and wilfully assists a person who is not registered as a dentist in performing any operation in dental surgery, either by administering anaesthetics or otherwise, will be liable, on proof of the facts, to be dealt with by the General Medical Council as having been guilty of infamous conduct in a professional respect." A case in which a charge of this nature was made came before the Council during the recent session. The defendant admitted that he gave gas to a patient for an unregistered dentist on one occasion, but stated that the unregistered dentist was a patient, and that he was not aware when he went to the house that he would be asked to give an anaesthetic. He, however further admitted that he had administered anaesthetics on a few other occasions, the last being during the autumn of last year, at a time when he was aware that the dentist in question was unregistered. The Council found the fact that the defendant had repeatedly given anaesthetics for an unregistered dentist proved, but on an expression of contrition and a promise never to repeat the offence, postponed judgement until its November session, informing the defendant that he would be required to produce evidence, particularly from his medical colleagues in the neighbourhood, as to his professional good conduct in the interval, and in particular that he had not repeated the offence as to which the complaint had been made.

Colonial Medical Legislation.—An ordinance has been enacted in Canada which prohibits, under penalty of £20, any person not registered from practising in the colony, whilst, in regard to dentists, it follows the lines of the home Dentists Act in merely prohibiting the assumption of titles. The difference in treatment may have arisen from the fact that it is the first step in dental legislation in the colony, whereas the medical enactment is not a new departure, but is a tightening up of existent legislation. In New Brunswick the Medical Act lately passed prohibits the act of practice. In both cases, therefore, a step in advance of our home Acts is to be noted. The New Brunswick Act, however, prescribes only a four years' curriculum, and makes no provision for the registration in the Province of practitioners whose names appear upon the British *Register*. Reciprocity with New Brunswick in the matter of medical qualification thus becomes impossible under the terms of our Act, and the union in this respect of the various Canadian provinces is not within sight. A new Act has been passed in Tasmania, but it is drawn somewhat closely on the lines of the home Acts, and only prohibits the assumption of medical titles by the unqualified.

The Charter of the British Medical Association.—The President in his address stated that the Lord President of the Council had forwarded to the General Medical Council a copy of the Draft Charter prayed for by the British Medical Association, with a request for any observations which the Council might have to make thereon. Sir Donald MacAlister suggested that the Executive Committee should examine the Draft Charter in consultation with the legal advisers of the Council, and report on any provision which might specially concern the Council. This course was, no doubt, followed, but no public announcement was made although the matter was, we understand, discussed *in camerâ*.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

MANCHESTER AND DISTRICT.

MEDICAL INSPECTION OF SCHOOL CHILDREN IN SALFORD. THE medical inspection of school children in Salford receives special attention in the annual report for 1908 just issued to the Health Committee. The staff engaged in the work consists of the borough medical officer of health, who is also medical officer to the Education Committee; an assistant medical officer of health, the greater part of whose time is devoted to school work; and also a special ophthalmic medical officer, who attends at the education offices for two half-days a week to examine the sight of children specially sent to him. There are also two trained nurses, whose duties include the visitation of schools at such times as the medical officer of health may lay down, and six district sanitary inspectors, engaged in school work. The duties of the medical officer of health in connexion with the schools are chiefly organization, supervision, and preparation of reports, while the assistant medical officer, besides inspection of the children, has to report on the sanitary condition of the schools, to examine plans for any new school buildings and to report as to their sanitary arrangements, ventilation, and so on, to examine candidates for teacherships, and to give lectures on school hygiene to teachers.

Last October a scheme of inspection was submitted to the Board of Education under which each school department was to be visited by the medical officer three times a year. On two of these occasions he was to examine only new admissions and children to whom the teachers called special attention. On the third visit he was to be preceded by the nurse, who would inspect all the children and receive reports from the teachers, and then make a list of all children that required to be examined by the medical officer. In this scheme there was a careful distinction made between inspection and examination, and it was so obviously incomplete that the Board of Education pointed out that it did not comply with the regulations of the code, as it did not provide for medical examination of healthy children, but only for their examination by the trained nurses under medical inspection. A new scheme had therefore to be submitted which provides for examination by the medical officer at least once a year of all children between 5 and 6 years of age, and between 12 and 13 years of age, as well as for inspection of all the children and examination of cases selected by the nurses.

It would seem as if the Education Committee only proposed this latter scheme under compulsion from the Board of Education, for the report says that "almost half the time devoted to medical inspection will be spent in examination of children just about to leave school, and over whom little or no further influence can be exercised." There seems, in fact, to be some reluctance to carry out the full medical examination contemplated by the Board of Education. That the examination carried out was very incomplete is further shown by a note to the effect that in the statistics given of defects and diseases the figures do not include all cases.

More complete clinical examination would probably reveal an increased number, but the figures indicate those that require either medical treatment or special school treatment and as great a number of the milder cases as can be discovered by the examination which is practicable under existing conditions.

Thus it is quite impossible to know how far the statistics given represent the actual state of affairs. The fact is, and it might just as well be admitted, that the medical examination is imperfect; it is only "what is practicable under existing conditions," and with the present staff. If complete medical examination is to be undertaken, a larger staff will have to be appointed. The question then arises, Is a medical examination that simply detects well marked cases and a variable number of mild cases sufficient? On the one side it may be said that mere statistics ought not to be the aim, that it is enough to detect cases that actually now need treatment, and that to examine medically every scholar to detect incipient disease would entail a prohibitive cost on the rates. That seems to be the position taken by the Education Committee. On the other hand, it may be said that it is important to detect all the mild cases of every disease in order that they may be kept under individual supervision, as they are just the cases in which preventive treatment should be exercised, seeing that preventive treatment in mild cases, which can only be detected by careful medical examination, is quite as important as simple curative treatment of well-marked cases. This, of course, applies not only to Salford but to other towns, and there is some ground for believing that elsewhere as well as in Salford the cost of such medical examination is regarded as prohibitive.

Keeping in mind, then, the statement that all the mild cases are probably not included in the figures given, during the last four months of the year the following statistics were obtained, the number per 1,000 of scholars examined being given in each case: Well-marked tonsillar enlargement or adenoid growths were found in 25 per 1,000; suppurative middle-ear disease in 8.5; hernia in 0.85, all the cases being boys; rickets in 8.83, the proportion of boys to girls being as 3 to 2. The figure 8 83 for rickets is, perhaps, open to some doubt, for in an individual medical examination of 3,145 new admissions there were 20 per 1,000 showing rickets. Chorea was found in only 4 cases—that is, in 0.28 per 1,000; lateral curvature of the spine in 20; lung disease in 7.1; heart disease in 1.9; epilepsy in 0 85; tuberculous bones and joints in 1.7; tuberculous glands and cicatrices in 2 06; while enlarged glands "of an unimportant character" occurred in no less than 147 per 1,000. The feeble-minded children numbered 1.7 per 1,000. In the first eight months of the year pediculosis occurred in 30 per 1,000 boys and 45 per 1,000 girls, while in the later months of the year it was below 20 per 1,000 in each, the improvement being largely due to the inspection and to the firm stand that the teachers had been able to take. Careful directions had been given to parents for the treatment of *Pediculi capitis*, but there seems to be an ineradicable idea among parents that pediculi are caused by ill health or some idiosyncrasy, and there is the greatest difficulty in getting them to consent to cutting of the hair. Eye diseases and defects of vision were found in 44.3 per 1,000 during the last four months of the year, blepharitis being by far the commonest disease; 419 cases of defective vision were found and 400 pairs of spectacles prescribed. Of the refractive errors, compound hypermetropic astigmatism was the most frequent, accounting for 33 per cent. of the total; while simple myopic astigmatism was the least frequent, being only 2 per cent. of all errors. All these figures undoubtedly show good work by the present medical staff, and if more exact statistics are required the staff will have to be considerably augmented. Special attention has been directed to the teaching of hygiene, a series of evening lectures having been given to teachers and arrangements made for the teaching of elementary hygiene in all the schools. The syllabus of lectures appended to the report shows a careful selection of subjects on the whole, but there may be some doubt whether the treatment of sprains and wrenches, coughs, diarrhoea and sore throat ought rightly to find a place in such lectures.

LIVERPOOL.

TREATMENT OF OPHTHALMIA NEONATORUM. AT the annual meeting of the St. Paul's Hospital for Diseases of the Eye and Ear several references were made to the new departure made in the direction of special measures for the treatment of ophthalmia neonatorum and the prevention of subsequent blindness. The scheme had been warmly commended in the memorandum appended to the report of the Committee of the British Medical Association, and had been there described as an almost ideal method which might well be imitated in other large cities. It was also stated that the Local Government Board had sent a request for particulars, and evidence had been given before the Parliamentary Committee appointed to consider the working of the Midwives Act. The cases treated in the hospital in the first year numbered 75, and in the first four and a half months of the present year 53. The ward now

contains 4 beds for mothers and 4 cots. The accommodation having proved insufficient the committee has appealed for funds to rebuild the hospital on a new site, opposite the David Lewis Northern Hospital. A special feature of the new hospital is to be the extra accommodation for children with a view to the prevention of blindness—work for which there is but scanty provision of beds in Liverpool. There will be an ophthalmic ward of 10 beds and 10 cots, and two wards (including isolation rooms) of 10 beds each for boys and girls respectively. It is proposed that this department shall be called the "George Edward Walker Memorial Children's Department," in memory of the late senior surgeon. It was stated that the cost of reconstruction of the hospital would be £13,000, of which sum £6,000 and the value of the land were already either promised or given. It was agreed to shorten the title to "St. Paul's Eye Hospital," and to cease to treat diseases of the ear.

Mr. Sydney Stephenson (Chairman of the Ophthalmia Neonatorum Committee of the British Medical Association) made an eloquent and convincing appeal for the prevention of blindness, on the grounds both of humanity and of economy. Besides those who appeared in the census as blind there were many persons of whom no official account was taken, whose sight was more or less permanently damaged. The cost of educating a blind child was ten times as great as the cost of educating a child with normal sight, and the result as to earning capacity was usually so much less that the blindness of each adult represented a loss of £50 yearly to the country. Nearly all cases of blindness in children were preventable. Cases of ophthalmia and corneal ulcer did extremely well in the country, and, though the committee had not at present any scheme for country beds, it would be a good thing if children's eyes were treated and their education attended to in the country. In the direction of curing ophthalmia neonatorum, St. Paul's Hospital had done pioneer work and set an example to the rest of the civilized world. As soon as a case was heard of, mother and child, with the co-operation of the local health authority, were removed to the hospital in an ambulance, so that they were not separated during the time the child's eyes were being treated. Of the 75 cases removed to the hospital last year 57 of the babies recovered full sight in both eyes. He did not hesitate to say that such a result would have been impossible with the older methods prevailing elsewhere. The public could rest assured that the money subscribed to the hospital would be well spent, whether the expenditure was regarded from a humanitarian or an economic point of view.

BIRMINGHAM.

Birmingham Medical Benevolent Society.

The eighty-seventh annual meeting of the members of the Birmingham Medical Benevolent Society was held on May 25th. The report showed that there were twenty-five annuitants on the books at the end of the year. The annual value of the grants ranged from £18 to £36, and the sum expended in this way during 1908 was £757.

The following typical cases show the good work the society is doing:

Widow, aged 71, of M.R.C.S.Eng., L.S.A. Only income derived from the interest on £200. Granted £27, and has received already £930.

Widow, aged 48, of M.B., C.M.Glasg. Income £58. Has had to educate four children, the eldest is now 21. Granted £36, and has received already £381.

L.S.A., aged 70. Unable to work and has a wife dependent on him. One of his children gives slight help. Granted £36, and has received already £381.

Widow, aged 67, of M.D. Very small income, in bad health, in lodgings, and helped by her sons. Granted £36, and has received already £1,011.

L.S.A., aged 83. No income. Wife's friends are helping to support him. Granted £25, and has received already £112.

L.S.A., aged 57. Only income £60. He has a wife and nine children, only one of whom is independent. He is incapacitated from work. Granted £36, and has received already £54.

The invested funds of the society amounted to £15,940, making, with a balance of £120 at the bank, a total of £16,060. The income for 1908 was about £775, which was made up in the following manner: Members' subscriptions, £225; interest on investments, £535; donations, £15. The expenditure was £805, so that there was, for the first time in the history of the society, an adverse balance of £31. The total number of benefit members at the end of the year was 390. The society lost six members through death during the year, and among these was Dr. Edwin Rickards, who was twenty-three years a director, eight years a trustee, and in 1906 president. Sir Thomas Chavasse was elected president, Dr. Simon president-elect; Dr. Langley Browne, of West Bromwich, and Dr. Kauffmann, of Birmingham, vice-presidents; Sir Thomas Chavasse, Mr. Bennett May, and Mr. W. Hewitt, trustees; Mr. F. Marsh and Mr. W. F. Haslam treasurers; Dr. Stacey Wilson and Sir Walter Fisher auditors; Mr. C. F. Crowder honorary solicitor; and Dr. Sawyer honorary secretary. The directors are Dr. Agar, Mr. W. Hewitt, Dr. Malins, Dr. Thomas Nelson, Sir James Sawyer, Dr. William Thomas, Dr. A. S. Underhill, Dr. E. B. Whitcombe, and Dr. Thomas Wilson.

The Care of Epileptics and Feeble-minded.

The first annual report of Dr. B. Jordan, medical officer to the Monyhull Colony for Epileptics and Feeble-minded, recalls the fact that the object of the colony is that epileptic and feeble-minded persons under the care of the guardians of the parishes of Birmingham, Aston, and King's Norton should be placed under the most favourable conditions for their general well-being and improvement by residing in an industrial colony where special treatment, suited to their malady, could be provided. The medical officer reports that during the thirteen months the colony has been opened there has been a gratifying improvement in the general condition of the inmates. They were better in physical health, brighter in mental condition, more easily influenced by and amenable to the nursing staff, more capable of steady work, and more responsive to moral and mental impressions made on them by religious services and entertainments. The number of inmates was 94, and of these 55 were males and 39 females. A certain number of helpless epileptic and feeble-minded girls and young women were sheltered from the appalling evils which too often result from their being at large in poverty-stricken or vicious homes. Two men and three women died during the year, and fifteen men and fifteen women were discharged to union infirmaries.

WALES.

Doctors and Colliers.

We take the following from the *South Wales Daily News* of May 31st, with the explanation that the responsibility for the accuracy of the statements must rest entirely with our contemporary:

As the result of the refusal of the local Branch of the British Medical Association to extend by two months the notices to terminate their engagements given by the doctors at the beginning of the present month, the Llanbradach workmen employed at the local colliery at a mass meeting on Friday (May 28th) decided to start a medical fund of their own, and appointed a committee to take the necessary steps. The doctors, it appears, wish to secure the operation of the poundage system instead of the present one, by which every man and boy pays 3d. per week towards the fund. A recent ballot showed that 1,149 persons were in favour of the retention of the present system.

Scotland.

[From our Special Correspondents.]

Royal College of Physicians of Edinburgh.

The Laboratory Committee, with the approval of the council of the college, has issued new regulations in the matter of reporting on specimens sent for examination. Formerly the corporation of the city paid an annual sum of several hundred pounds to the college for this work, but some years ago this honorarium was transferred to the John Usher Institute of Public Health of the University of Edinburgh. Despite the transference, the college laboratory has gone on doing this work for the medical profession, "all for love and nothing for reward." But now a new order prevails, and charges will be made varying from 2s. 6d. for examinations for tubercle bacilli, or for a culture from diphtheria swab and report, up to £5 5s. for a medical

report and culture for tubercle bacillus, or for an examination of the central nervous system of a dog suspected of hydrophobia. The examinations to be undertaken by the college laboratory cover a wide field—sputum, pus or other material, blood, hair, skin, urine, faeces, stomach contents, tumours, water, milk, hydrophobia, opsonic index, etc. The John Usher Institute of Public Health will continue to do the ordinary routine work for the general practitioner, such as diphtheria, tubercle bacillus, and the like.

EDINBURGH ROYAL INFIRMARY AND THE BUDGET.

At the weekly meeting of the managers of the Edinburgh Royal Infirmary on May 31st, Lord Skerrington presiding, Dr. R. McKenzie Johnston submitted a statement, made out on the basis of last year's figures, from which he showed that the increase in the duty on alcohol as proposed in the Budget would affect the institution to the extent of £112. This did not apply to alcohol as a beverage or as a stimulant except in a very small degree, but it applied to various preparations in which alcohol was largely used; anaesthetics alone accounted for nearly £50 out of this sum of £112. Dr. McKenzie Johnston had received a communication from Dundee Royal Infirmary, asking support to a movement to get some concessions in regard to the making of tinctures and other remedial preparations. In Dundee it was calculated that the Budget meant an increased expenditure of 10 per cent. Dr. Johnston was of opinion that it would be difficult to get exemption for hospitals alone. The matter was remitted to the Medical Committee for consideration and report.

THE REGISTRATION OF NURSES IN SCOTLAND.

The following is a copy of the resolution which has been sent to the Prime Minister on the subject of the registration of nurses in Scotland:

The Executive Committee of the Association for the Registration of Nurses in Scotland, at a meeting held in Edinburgh on May 14th, expressed their satisfaction that the Prime Minister was unable to assent to the proposals of the deputation which awaited on him on the 13th inst. This association (which represents public opinion, and, with a few exceptions, the opinion of the medical and nursing profession in Scotland) trusts that it will be afforded an opportunity of placing its views before any committee of the House of Commons that may be appointed to deal with this important subject. The enclosed printed statement (already published in the press) gives in detail the reasons of the association for objecting to Registration Bills No. 1 and No. 2, and although Scotland does not desire to be associated with the scheme of either of these bills, the Scottish Committee see no reason why a bill for the registration of nurses should not be introduced which would be satisfactory to England, Scotland, and Ireland, arranging for representative branch councils, and for a separate register for each country, to be embodied in one common register, the branch councils to supervise examinations in their own country, just as is done under the Medical Act, 1858, and its subsequent amending Acts. The views held by this association coincide generally with the recommendations of the Select Committee which reported to Parliament in 1905 on the question of State registration of nurses.

THE TREATMENT OF PHTHISIS IN EDINBURGH.

On June 1st the Public Health Committee of Edinburgh Town Council agreed to recommend that the number of patients suffering from phthisis, which the Committee has the power to treat at Colinton Mains Hospital, be increased from fifty to sixty-two, and that six pavilions should be provided for their use.

INDIAN MEDICAL SERVICE DINNER.

The annual Indian Medical Service dinner took place in the Caledonian Club, Edinburgh, on May 28th, and proved a marked success. Twenty-seven members, past and present, sat down, and the guests included the Presidents of the Royal Colleges of Physicians and Surgeons, Colonel Corker, R.A.M.C., Sir Halliday Croom, Drs. Haultain and McBride, and Lieutenant Bruce-Turnbull, 23rd (Sikh) Pioneers. The service was represented by Sir Alexander Christison, Bart., in the chair, Surgeon-Generals Bidie, C.I.E., Turnbull, K.H.S., Sinclair, C.S.I., and Hay, Colonels Warburton, C.S.I., Stephen, Arnott, MacLaren, Downie, Robb, Bannerman, Bell, Lamont, Wyville Thomson, and Julian Smith, Major Robertson-Milne, Captains McRae, Masson, Harvey, Stewart, Husband, Kirkwood, Roberts, Tarr, Fleming, and Morison.

After the usual loyal and patriotic toasts, the Chairman proposed in appropriate and eloquent terms, "The Medical Services," which was responded to by Colonel Corker. "The Scottish Universities" and "The Royal Colleges of Physicians and Surgeons, Edinburgh," was given by Surgeons-General Sinclair and Hay, and acknowledged by Dr. Allan Jamieson and Mr. Cotterill.

A most pleasant and enjoyable evening was spent, and before the meeting broke up, the health of the veteran chairman was proposed in the most felicitous terms by Colonel Warburton. This toast was received with the utmost enthusiasm, and all present were of opinion that this was the most successful I.M.S. dinner yet held in Edinburgh, and bestowed on Colonel Arnott full credit for all his work in organizing it.

THE FUTURE OF QUEEN MARGARET COLLEGE AS A MEDICAL SCHOOL.

The Universities Commission in 1892 empowered the Scottish Universities Courts to make provision for the instruction of women, either by admitting them to the ordinary classes or by instituting special classes. The latter course was adopted, as, with few exceptions, the professorial staff of that day did not desire to undertake the teaching of women, nor to admit them to their classes at Gilmorehill. Accordingly a full curriculum of medical studies was provided at Queen Margaret College under a special staff of lecturers and a few of the professors who were willing to undertake the double courses. The position became changed when new professors were appointed who were required to undertake the teaching of the women students. They soon felt it to be a distinct hardship that a special course of lectures were required for a mere handful of students, and a strong movement arose in favour of admitting the women students to the university classes, and eventually it was arranged that any individual professor could, if he wished, admit the women to his university class. This course was readily adopted, and already several of the Queen Margaret courses have been abolished. The most recent case is that of materia medica. Dr. Wm. Maclennan recently sent in his resignation from the lectureship at Queen Margaret College; it was decided that it would be inexpedient to appoint a new lecturer. Accordingly next winter the women students will be taught in the university. Already the following classes are held at Gilmorehill: Zoology, botany, physics, physiology, medical jurisprudence, and pathology. Probably when the new chairs for the final subjects are instituted at the Royal Infirmary, it will be found that part of the duties will include the teaching of women. From their point of view there is no doubt that the eventual abolition of the separate classes will be a decided gain in every way. They will obtain whatever advantage there is in being taught by their examiners, and there is no doubt that the Gilmorehill teaching facilities are on the whole greater than those provided at Queen Margaret College, where, with the exception of the special anatomical institute, the laboratory accommodation was very primitive. As a rule the number of women students was small—about a dozen each year—but the recent difficulty in Edinburgh has already increased the numbers.

PRESENTATION TO DR. JOHNSTON.

An interesting sidelight on late events at Ruchill is afforded by the presentation of a silver rose-bowl to Dr. and Mrs. Johnston by a deputation of the staff of Ruchill. The bowl bore the following inscription: "Presented to Dr. and Mrs. Johnston by the General Staff of Ruchill Hospital as a mark of esteem and affectionate regard, May 27th, 1909."

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

DUBLIN HOSPITALS BAZAAR.

THE great bazaar in aid of the funds of Mercers' and the Orthopaedic Hospitals has been concluded. It was held in the magnificent buildings of the Royal Dublin Society, and was opened last Tuesday week by His Excellency the Lord Lieutenant and Lady Aberdeen.

It was favoured by good weather, a wide sympathy, and crowds of sightseers. In Ireland bazaars are popular, and every few years it is possible to conduct one on a scale of great splendour as this was. Every county had a committee, and there were elaborate stalls, cafés, and dancing halls, and the other arrangements which are essential to the success of such an undertaking. It is hoped that a substantial addition has been made to the hospital funds. About 50,000 persons passed the turnstiles in five days.

IRISH MEDICAL ASSOCIATION.

The annual general meeting of the Irish Medical Association will be held in Sligo on Tuesday, June 8th, when the chair will be taken by Sir William Smyly, President of the Association.

Special Correspondence.

VIENNA.

Morbidity and Mortality in Vienna.—Food of the People of Vienna.

THE report of the Board of Health for 1908 contains some very interesting figures regarding the public health and mortality in this city. The general health is improving, and the expectation of life has been steadily increasing since 1873. The number of deaths in the past year was a little over 35,000, or about 17 per thousand, with a population of two millions. But an analysis of the causes of death gives a good illustration of the importance of infantile mortality in the records of large cities. More than 27 per cent. of the deaths are those of infants under 1 year of age, while 8 per cent. are those of children from 2 to 5 years, so that about one-third (32 per cent.) of all persons who died belonged to the lowest age. Twenty-five years ago 38 per cent. of the deaths came under this heading. The constant remarkable diminution of infant mortality is a most gratifying feature of the modern endeavours to reduce the loss of young lives—*gouttes de lait*, mothers' associations, free milk distribution. As regards the causes, tuberculosis is responsible for 19 per cent. of the total number of deaths, infectious diseases for 11 per cent.; disorders of the intestinal canal, excluding neoplasms, caused 7 per cent. Only 29 persons died of typhoid fever (forty years ago typhus was an every-day affection), thanks to the splendid water supply of Vienna. All cases could be traced to a source outside the town. Brain disease and neoplasms were rather less fatal last year than a few years ago. This, however, may be accidental. Special attention has been paid to diphtheria. The number of cases does not vary considerably, but the mortality has been found to be less than 10 per cent., even in hospitals, where only serious cases are received. The absence of deaths from small-pox is also noteworthy; nearly the whole population, with insignificant exceptions, is now vaccinated, thanks to the scare in 1907. On the whole, the health of Vienna is fairly satisfactory, especially as the tendency to improvement is steady.

For about two years the nature of the daily food of the people of Vienna has altered appreciably, partly from a change of taste, partly from an increase in the price of various articles of food, especially meat. The latter has become more than 30 per cent. dearer, when compared with 1902, and it is still going up. The report of the market board shows that there is a decided fall in the sale, and therefore consumption, of beef, whilst pork is more favoured. On the other hand, the increased consumption of eggs, potatoes, milk, and flour shows that large numbers of the population have adopted a more vegetarian mode of life. It may be doubted, however, whether this is done from any other reason than economy. The conditions are manifest enough to arouse public attention, and a deterioration of the national physique is justly feared. Therefore all public corporations have taken up the matter, and Government and municipalities are asked to bring about a change of the present policy, which makes the poor man's meat and bread dear, without enabling him, by better pay, to procure it in sufficient quantity for his family. The "antiagrarian" movement is spreading fast, and it is hoped that it will succeed in bringing ordinary food once more within the reach of the consumer.

Correspondence.

THE DOCTOR AS A VICARIOUS PHILANTHROPIST.

SIR,—I have at different times and in divers places urged on my professional brethren that if they take up a determined stand they will secure that recognition and reward for their professional services to which they are entitled.

Here is a case in point:

At 7 o'clock last night a group of men brought a boy into my surgery, saying he had been run over by a cab. I asked of them, "Who guarantees to pay my fee for attending to the boy?" There was no answer. I then asked the cabman if he would not guarantee my fee on behalf of his employer, and he declined to do so. I then ordered the boy to be taken to the infirmary. The boy was taken away, and a hostile and threatening crowd gathered outside my surgery, cursing me for not attending to the accident. Five minutes later the boy was brought back by two policemen, and I said, "I refuse to attend, unless my fee is guaranteed."

One of the policemen said he would do so on behalf of the police, whereupon I attended to the boy. When the crowd and the boy had gone, the police remained to get particulars of the injuries.

In the course of the conversation I referred to the readiness of the public to call on the doctor for his help and of their unwillingness to pay the doctor's fee, and I was staggered to learn that the supposed cabman whom I asked to guarantee my fee in the first instance was the owner of the cab and the son of a large hiring proprietor.

The fee I shall get is a very small one, no doubt, but I have done a great deal for the vindication of a principle, upon which I wish more of my professional brethren would act. We have all suffered from being called to accidents, in having our clothes destroyed and our convenience set at naught; and when we have given freely of our physical powers, our professional skill, and our lint and bandages, we have all been turned into sad philosophers when liability was repudiated all round.

The payment of the doctor for street accidents is but a small phase of the social question which could be so easily settled, but which never will until the profession is united.—I am, etc.,

Glasgow, May 27th. J. WISHART KERR.

RURAL DISTRICT NURSING ASSOCIATIONS.

SIR,—The attention of the Chairman of the Central Midwives Board having been drawn to a letter signed "G. P.," appearing on pages 1153 and 1154 of your issue of May 8th, the letter was considered by the board at a meeting held yesterday.

I am directed to inform you that the board is prepared to investigate the matter if the writer of the letter will communicate with me.—I am, etc.,

G. W. DUNCAN,
Secretary.

Caxton House, Westminster, London, S.W., May 28th.

PAYING PATIENTS AT VOLUNTARY HOSPITALS.

SIR,—It is to be hoped that this subject will receive careful consideration before the Association is definitely committed upon it, for it is of great importance to a large section of the public, no less than to those members of the profession who are attached to public hospitals.

The resolution passed by the Liverpool and Birkenhead Joint Divisions, as reported in the JOURNAL of May 29th (SUPPLEMENT, p. 327), disapproves of the practice of treating paying patients at public hospitals because it is wrong in principle and unjust. If it were true that hospitals compete with private nursing homes by charging the same fees or lower ones to those who can afford to pay more, the principle would be wrong indeed. But what does really take place is that patients who require treatment at an institution and whose means do not allow them to go to a private nursing home but who on the other hand are not poor enough to claim charity make use of an arrangement which is a great convenience to them while causing no loss to the hospitals. The arrangement may be regarded something like that upon which are based self-supporting

philanthropic institutions, and only proves once more the great necessity there is for self-supporting public nursing homes. Whilst the rich and the very poor are amply provided for, the great middle-class is left to look after itself—and it generally looks in vain.

As to the medico-ethical aspect of the matter, one fails to see why one should not be paid for one's services rendered to a patient under circumstances intended in the first instance for his—the patient's—convenience, provided, of course, the patient is willing and able to pay for them.

That the usual medical attendant is thereby deprived of fees which would go to him if the patient were debarred from deriving great convenience is hardly an argument which the profession can bring forward with any dignity. If any one has to wait for the realization of those "economic laws which regulate the matter of demand and supply," it must be the doctor and not the patient. Meanwhile it may be mentioned that there are many hospitals which have general practitioners on their staffs, and that the "usual medical attendant is not always deprived of his fees" when paying patients are treated at public hospitals.—I am, etc.,

Manchester, June 1st. J. DULBERG, M.D., J.P.

THE ASSOCIATION.

SIR,—I notice Dr. John R. Hamilton's letter in the JOURNAL (p. 1331) commenting on a passage in the Report of the Council of the Association regretting that the "increase in the membership was not more marked," etc., and attributing that fact to the splitting up of the Association into Divisions.

I attribute it to another fact. I find that the usual reply I get when asking some one to join the Association is "What has the Association done for us?" This is an example of the old adage, "Give a dog a bad name and hang it." The Association got its bad name in the old days, when it simply held "pleasant meetings with items to interest and amuse," and when the medical practitioners of the country were wanting it to attend to their real interests, and it did not at all, or only scantily. It has not had time to lose that bad name yet, and if it is to lose it its members must be more earnest in their attendance at its meetings, and in giving proper instructions to the delegates they send to the Representative Meeting. The members have now the success of the Association in their own hands, and will mar or mend it accordingly as they perform their duty towards it.—I am, etc.,

Ashton-under-Lyne, May 29th. SAMUEL CRAWSHAW.

THE PROFESSION, THE ASSOCIATION, AND THE JOURNAL.

SIR,—The object of the existence of the British Medical Association may very largely be expressed by the late Mr. Ernest Hart's rendering of a famous dictum: The government of the profession, by the profession, for the profession. It is clear that this object can only be attained by the absorption into the Association of the very large number of men who still remain outside its ranks. I have not the exact figures, but I think that at the present moment something over half the total number of medical men in the United Kingdom are members.

Dr. Brown, of Bacup, informs me that, in the fifteen Divisions of the Lancashire and Cheshire Branch which make returns both of membership and of the numbers of medical men practising within the areas of the said Divisions, there are 716 members out of a resident total of 1,367. Assuming, then, that two-fifths of the profession in these islands are still outside the ranks of the Association, it is clear that the latter cannot speak with all the authority of the profession as a whole. Only a few days ago, at the interview of a representative deputation with the Prime Minister anent the State registration of nurses, the fact that the British Medical Association is far from being in a position to speak for the profession as a whole seems to have been urged with a view to belittling the objects of the deputation.

Now, can anything be done to close up the ranks of the profession, and to unite with us those who are still outsiders? After considerable consideration, and after discussing the matter with several members of the Association, I make bold to say that the JOURNAL, which up to a certain point has been the making of the Association, is now the greatest bar to our further progress. I have little doubt that this statement will be derided in many and influential quarters. But I feel convinced that a very large number of men would join our ranks but for the fact that doing so involves subscribing to a medical periodical which they either do not want or have other opportunities of seeing. In saying this, I do not for a moment wish to disparage the conduct of the JOURNAL, which holds a place of high honour among the medical periodicals of the world. But it is inevitable that among many thousands of medical men there must be many who would prefer some other periodical.

I venture, therefore, to take the liberty of calling attention to the resolution of the Rochdale Division, published in the SUPPLEMENT of May 8th, 1909, p. 236, suggesting that there be in future two grades of membership subscription, one, as at present, to include membership and JOURNAL, the other (say 10s. 6d. per annum) to include membership and the SUPPLEMENT only. Our Representative has been instructed to bring this forward at the Belfast meeting.

The advantages which I believe would accrue from this change are, in my opinion, mainly two:

1. A large accession of new members. This is infinitely of more consequence than any mere increase in the circulation of the JOURNAL.

2. It would at once clear the way for the absorption into the local Division of the Association of a large number of local medical societies. This is most desirable, as in many instances there is not room for two medical societies in areas which are nearly coterminous.

It is possible that some subscriptions might be partly lost through present members taking advantage of the lower grade of subscription. This, however, would be a small price to pay for the advantages.

I suggest that the machinery of the Association might be utilized to ascertain the views of non-members in respect of some such scheme as I have attempted to outline.—I am, etc.,

Rochdale, June 1st. J. CUTHBERTSON WALKER.

SANITARY PROGRESS IN THE BRITISH WEST INDIES.

SIR,—I have just returned from a special visit to Barbados, St. Vincent, St. Lucia, Grenada, British Guiana, and Trinidad, having been especially concerned with mosquito-borne diseases, more particularly yellow fever.

I have read the official report of a committee which was established in 1852 to inquire into the terrible mortality, chiefly from yellow fever, amongst the military and naval forces then stationed in the West Indies. The appalling picture of death and loss of money at that date and the comparative health-security of to-day shows that immense strides in prophylaxis have been made. These I have carefully analysed, and I am now in a position to state that, certainly since the date of my visit to British Honduras in 1905, a most energetic campaign has been undertaken against mosquito-borne diseases. In the first place, the doctrine of mosquito-borne diseases has taken root. Of course there are a few fixed individuals yet to be found amongst our own profession, as well as amongst the legal and business men; but taken as a whole, the people have learnt. I am in a position to state this, for during my visit I delivered 32 addresses to all classes of society, examined 1,097 yards and 2,292 water receptacles. This splendid advance in knowledge has been brought about by means of lectures and cheap literature in the form of pamphlets, diagrams, circulars, notices, and primers used in the schools. To show how real the movement is it is now a punishable offence to have larvae on premises, and no less than 226 summonses have been taken out since 1907, and fines inflicted from 1s. to 40s.! During the last three months there has been a remarkable increase of activity. Yes, the people now understand, "No *Stegomyia*, no yellow fever." "No *Anopheles*, no malaria." Indications also are not wanting that the profession is realizing the advantage of uniting for the purpose of advancing medicine by reading and publishing papers of value. I had the honour of addressing several meetings of Branches of the British Medical Association, which have been formed in the islands; but much more in this direction requires to be done. Whilst on this topic, I venture to suggest that a meeting of the British Medical Association in Trinidad

or Jamaica would do much to stimulate medical and health progress in our West Indian Empire, and would be most popular and easily organized. Finally, it was my good fortune to fall in with the work of Dr. Beauperthuy, who, born in Guadeloupe, flourished in Cumana in Venezuela, and died in British Guiana. To him belongs the credit of having to my mind foreshadowed the doctrine of insect-borne disease. His opinion on yellow fever and malaria are strikingly prophetic, and his fulminations nearly one hundred years ago against the absurdity of "miasm"-borne diseases have to-day been proved to be fully warranted.—I am, etc.,

University of Liverpool, June 1st. RUBERT BOYCE.

⁂ An account of Beauperthuy's life, work, and opinions was given in the JOURNAL about a year ago (May 30th, 1908, p. 1306), and will be read with interest in connexion with Sir Rubert Boyce's letter.

OPERATIONS ON THE PROSTATE.

SIR,—May I make some remarks upon the case of enlarged prostate described by Mr. Fullerton in the JOURNAL of May 22nd? The estimation of prostates by weight is convenient, sufficiently accurate, and serviceable for statistical purposes. To the operating surgeon it is of little use, because it gives little if any idea of the mechanical difficulties of operation which depend much more upon such properties as size, shape, consistence. From a general point of view, I think it is of still less service, for, while to surgeons accustomed to see, handle, and weigh prostates, their weight may give an approximate notion of their size, it can give none of their other qualities; while to those not actively engaged in operating on prostates it gives practically no concrete notion at all.

From Mr. Fullerton's account of the case, it is clear that before beginning the operation he did not expect to find any particular difficulty, whereas, in fact, extreme difficulty was experienced. I would ask whether examination immediately after the bladder was opened gave any indication, and if so what, of the degree of difficulty likely to be found.

The adoption of a line of treatment by a man of Mr. Fullerton's professional attainments and position cannot be without influence. I therefore venture to offer the following comments because I think the account of the case given shows that the treatment adopted was not the wisest.

For ten years before operation there was nocturnal micturition—cause not stated, presumably not known at the time, reasonably to be regarded as enlarged prostate. Nine months before operation there was brief spontaneous haematuria with gravel, and the prostate was found to be enlarged—cause of haemorrhage not stated, presumably not definitely known, possibly gravel. Two days before operation slight haematuria occurred—cause not stated, presumably unknown. On the day before operation there was retention of bloody urine, relieved by catheter; and on the day of operation there was retention of urine containing clots, relieved by suprapubic puncture—cause not stated, presumably not known.

Operation was rightly considered, and now, I submit, the first mistake was made. It is clear that the most urgent indication was to relieve retention. The catheter had failed; the aspirator had given temporary relief. It is not stated that clots had come away; presumably they were still in the bladder. There is no mention of any sign that the bleeding was diminishing.

The second indication was to check the vesical haemorrhage. The most promising way to fulfil these two indications, in view of the known large size of the prostate, was to open the bladder above the pubis. There is nothing in the account of the case to suggest that the fulfilment of these two indications would not restore its former degree of efficiency to the bladder, a condition, I submit, by no means amiss in a man of 73. This patient had had a grave cardiac attack ten days before, and this, together with his age, made it clear, I think, that the less that was done consistent with relief the better; while the short duration of the urgent symptoms suggest the probability that relief might have been simply obtained.

Notwithstanding these facts and the misgivings which they occasioned prostatectomy was the only operation stated to have been considered. This, I think, was bad. Prostatectomy was the operation performed, which, I think, was worse. Prostatectomy was the operation which the patient just managed, with help, to survive.

Only in the last sentence of the report of the case is there to be found any reference—and that a passing one—to what seems to me the key of the clinical picture.

I submit, with all deference to Mr. Fullerton's much greater experience, that the indications in this case, as recorded, were these:

1. To empty the bladder, because retention existed.
2. To do this by cystotomy, because the catheter had completely failed and the aspirator had not removed clots.
3. To open the bladder above the pubis, because of the ascertained great size of the prostate.
4. To decide upon further measures after the interior of the bladder had been explored, because the condition of its interior was very incompletely known.
5. Having opened the bladder above the pubis and found, as described, a large prostate and a mulberry calculus, to remove the stone, wash out, and drain the bladder.

I think that the sufficiency of this treatment is indicated by these considerations: the presence of the mulberry stone was sufficient to account for the haemorrhage described; the prostate, despite its great size, had not of itself caused much trouble; its immediate removal, therefore, was not necessary, and might—and in the event did—involve an enormous strain upon the patient.—I am, etc.,

Middlesbrough, May 25th. ROBERT K. HOWAT.

HYPODERMIC INJECTION OF STRYCHNINE.

SIR,—Mr. Charles Randolph raises an interesting question in his letter in the JOURNAL of May 29th, p. 1331. It is especially so in view of the modern tendency among physiologists and surgeons to decry the value of hypodermic injections of strychnine. Quite recently, in a paper on the treatment of shock during anaesthesia, read before the Anaesthetic Section of the Royal Society of Medicine, Dr. Dudley Buxton deprecated the injection of strychnine. To me these pronouncements come somewhat as a surprise. Twenty years in general practice and ten in that of anaesthetics have convinced me of the value of strychnine injections in suitable cases. Of course, it is useless to expect good results when the patient is almost pulseless, as the drug probably never gets into the circulation. But when the circulation has not sunk quite so low as this, or there is a chance of reviving it by artificial respiration, oxygen, or intravenous saline infusion, my experience is that injection of a full dose of strychnine is most valuable.—I am, etc.,

London, W., May 29th. G. A. H. BARTON.

THE CAUSATION OF CANCER.

SIR,—Will any of your readers kindly offer arguments against or in favour of the following reflections on the causation of cancer?

That chronic irritation is the safest "jumping-off place" for cancer research, there being no doubt as to the important part which such irritation plays in the development of cancer.

That the evidence so far adduced is in favour of a verdict of cancer from natural causes. That what we call Nature or the mysterious forces contained in cells which Weismann calls "determinants"—having tried in vain to heal a chronically inflamed wound in a position where the necessary physiological rest is impossible, and in a person with enfeebled nerve force and devitalized tissues, has recourse to another plan—namely, changes the original destiny of the local cells and resuscitates ancestral reproductive faculties. That this influence of irritation on specialized cells is quite in harmony with the doctrines of evolution, and a cell with reproductive faculty might very well get into the lymph stream and start secondary growths in the glands or elsewhere.

From a fragment of a begonia leaf may arise an entire individual capable of continuing the race. Environment here changes the destiny of the cells. Among low multicellular types, the power of continuing the race persists in many cells, and environment decides whether it shall be exercised or not. The power of regeneration in specialized tissues is only lost because the retention of the power is no longer useful.

That as regards reaction to environment, a plant and a

man must be placed in the same class. Of interest in this connexion is Darwin's remark that "if a flower is accustomed to open at sunrise it will open none the less punctually if transplanted to a dark cellar. A residue of the stimulus remains in the cells so that opening at a given time becomes part of its being."—I am, etc.,

Lightcliffe, nr. Halifax, May 29th. ASHINALL MARSDEN.

Obituary.

SIMEON HOLGATE OWEN, M.D., M.R.C.P.,

CONSULTING PHYSICIAN, MANCHESTER NORTHERN HOSPITAL.

FEW men of a retiring disposition will be so much missed by a large circle of friends as Dr. Simeon Holgate Owen, who died suddenly from heart failure, after doing an ordinary morning's work, on May 19th, at his residence, Whalley Range, Manchester. Dr. Owen was in his 65th year, and for some years had suffered occasionally from pains in the chest which were apparently regarded as dyspepsia, so that his death came with quite unexpected suddenness. He was the son of the late Mr. Henry Owen, Dental Surgeon, and obtained the diplomas of M.R.C.S. and L.S.A. in 1869. He graduated M.D. at Queen's College, Belfast, in 1872, and obtained the M.R.C.P.Lond. in 1888. For some years before the incorporation of Moss Side, Manchester, he was M.O.H. for that district, and was a Fellow of the Royal Institute of Public Health. At that time he took special interest in sanitary science, and frequently lectured on public health subjects for the Manchester and Salford Sanitary Association, of which he was an active member. Two of his lectures on Fevers, their Nature and Prevention, and Work and Recreation in their Relation to Health, were published, and were very favourably received. He had held the posts of Assistant Physician to the Manchester Royal Infirmary and House Surgeon to the Manchester Southern Hospital for Women and Children. He was best known, however, as Physician to the Manchester Northern Hospital for Women and Children, a post which he held for some years and where he endeared himself to a large number of patients by his careful, painstaking, and sympathetic treatment. On his retirement from the active work at the Northern Hospital he was elected consulting physician, his services to the hospital being as much appreciated by his colleagues and the Board of Management as by the patients under his care.

For many years he took a very active part in the work of the various medical societies in Manchester. In 1891 he was President of the Clinical Society, and in 1893–4 Vice-President of the Manchester Medical Society, of which he was elected Honorary Treasurer in 1908. He also held the position of President of the Medico-Ethical Association on two separate occasions, having been elected for the second time shortly before his death. For some time he made diseases of the heart a special study, and wrote various articles on the subject, among which may be mentioned Mitral Disease in Children, The Prognosis of Mitral Disease in Children, and Cardiac Thrombosis after Abortion. He was also the author of numerous reviews and articles on general literary subjects. He was an enthusiastic Unionist, and a member of the Manchester Constitutional Club, and worked hard, if unostentatiously, for his party.

As a member of the British Medical Association he took no active part until comparatively lately, but as a member of the committee recently appointed by the Joint Divisions of Manchester and Salford to consider the ethical relations between consultants and general practitioners in Manchester he showed an amount of fair-mindedness and sympathy with both branches of the profession that augured well for the success of the committee in its difficult task. Shortly before his death he was elected Chairman of the Manchester West Division, and the Honorary Secretary of that Division writes as follows: "As one who has enjoyed the privilege of frequent personal intercourse with the late Dr. Holgate Owen, and has often benefited by his ever ready sympathy and help, I feel, and all who knew him will agree with me, that his Division has lost in him an ideal chairman and a true friend. Although in the past he had been unable to take any active part in the work, he was keenly alive to, and showed much interest in, what was done, and he was ever willing to aid with well-considered advice. Dr. Owen was unanimously elected to the chairmanship of the Division for the ensuing year at the annual meeting on May 11th, and a day or two later wrote accepting the position and expressing his pleasure at the prospect of active work in the interest of the Association. He promised to attend the first meeting of the Executive Committee, but he died on the afternoon of the day previous to the meeting. The news of his sudden and unexpected death came as a rude blow to the hopeful anticipations of a year's pleasant labour under his able leadership, and added to the bitterness of the personal loss felt by those who reckoned him among their friends. The geniality and earnestness so characteristic of him, his courtesy, tactfulness, and common-sense methods of dealing with difficulties, and his general popularity—he had no enemies—all tend to make the loss of such a man seem wellnigh irreparable, alike to his Division, his profession, and his personal friends."

MR. JOHN MASON WILLEY died at his residence in Leicester on May 20th after a prolonged illness. He was born in 1852, and received his medical education at St. Bartholomew's Hospital. After obtaining the diploma of M.R.C.S.Eng. in 1876 he spent several years in resident appointments. He was House-Surgeon successively to the Jessop Hospital for Women, Sheffield, the Sheffield Public Hospital and Dispensary, and the Royal Isle of Wight Infirmary, Ryde. In 1883 he became L.R.C.P. and L.M.Edin., and in 1890 he settled in Leicester and was engaged in busy general practice until failing health compelled his retirement in 1908. Of quiet and retiring disposition, Mr. Willey's kind, unassuming manner made him very popular among a large circle of patients. For several years he held the post of Surgeon to the Leicester Provident Dispensary. Mr. Willey leaves a widow, but no family.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are: Professor Guddstadt of Berlin, a well-known medical statistician, aged 70; Dr. Vicente de Figueiredo Saboia, formerly Professor of Clinical Surgery in the Medical Faculty of Rio de Janeiro; Dr. Paul Cavaillon, *agrégé* Professor at the Medical Faculty of Lyons, and founder of the *Lyon Chirurgical*, aged 32; Dr. Ernest Besnier, Member of the Paris Academy of Medicine, one of the most famous dermatologists in Europe, sometime head of the Dermatological School of Saint Louis Hospital, founder of *Annales de Dermatologie*, author of numerous works on general medicine and hygiene, as well as dermatology, and translator of Kaposi's *Lectures on Diseases of the Skin*, with copious notes; Dr. Manuel Amador, first President of the Republic of Panama, and at one time the leading physician on the isthmus, aged 74; and Dr. Ferdinand Klug, Professor of Physiology in the University of Budapest, aged 64.

THE LATE PROFESSOR GERALD YEO.—In the obituary notice of Professor Gerald Yeo, published in the JOURNAL of May 8th, it should have been stated that Professor Yeo left only one son, who is a second lieutenant in the Devonshire regiment.

Medico-Legal.

HERBALISTS AND THE PEOPLE.

AN inquest was held in Sowerby on May 17th on a woman whose death would appear to have been due to internal strangulation, which being unrelieved was followed by peritonitis. She fell ill on May 6th, and died a week later. Two days after she began to be ill a herbalist named Culpan was called in to attend her, and continued to do so until she died. Late on the night before her death a medical man was asked to see her, but sent a message to the effect that he would be unable to come that night. The jury returned a

verdict of death from natural causes. Culpan was not present at the inquest, but subsequently wrote a letter to the *Halifax Guardian* saying that on the morning of the day he first visited the deceased he was asked for a mixture to stop "bilious vomiting," but declined to give it until he knew more particulars. In the afternoon he diagnosed the case as one of inflammation of the bowels, probably complicated by peritonitis. The following day he confirmed his diagnosis and suggested that other advice should be summoned, but the patient declined and asked him to continue to treat her. This letter was written subsequent to the holding of the inquest and to the medical evidence as to the nature of the disease and the cause of death.

The case in its essential features is merely one more unfortunate instance of a person dying owing to causes which could probably have been removed had medical attention been received, but the action of the jury on the occasion lends it a certain special interest. The foreman and other members of the jury kept on arguing with the coroner as to why the inquest should have been held at all, and evidenced a strong desire to defend Culpan—who was mentioned as "Dr." Culpan—from any kind of blame. They had known him for thirty or forty years and had every confidence in him. He was not a mere quack—not a person continually coming and going—but one who had been brought up among the people, and a very respectable man. The chivalry thus displayed is a pleasing feature which might well be emulated by juries elsewhere; but, on the other hand, the jury's general attitude towards the matter did little credit to their heads. The only excuse that can be made for them is that subsequent events seem to show that they were under the influence of an egregious body calling itself the National Association of Medical Herbalists. Its members wish the people to believe that an elementary knowledge of herbs administered by rule of thumb is all that is required for success in the treatment of sickness, and to conceal from them the fact that when they consult a medical man they receive advice founded not only on a complete knowledge of herbs, but of the human body and its diseases as well. As Yorkshiremen have the reputation of being canny, one would not have imagined that these Sowerby people would have been thus deceived, or have failed to see for themselves that the cheapest goods to buy are those into which the most labour has been put.

It is to be feared, however, that nothing will prevent the occurrence of preventable deaths of the same kind until the Legislature places a penalty on the practice of medicine by persons who have no scientific knowledge of it.

WORKMEN'S COMPENSATION CASES.

Refusal to Undergo an Operation.

ALTHOUGH a workman may be justified in refusing to undergo an operation, the county court judge has it in his power to reduce compensation if the workman will not submit to reasonable treatment. In a case at Barnsley, a man who had sustained an injury to his right finger was awarded compensation at the rate of 15s. 10d. a week. It was suggested by the employers that an operation would enable him to work. The man, however, refused to undergo the operation, as his medical adviser recommended him not to. He had neglected, however, to have the hand massaged. The county court judge held that while the refusal to be operated on was justifiable, the workman had not done all that he could to get his hand better. He therefore reduced the compensation to 12s. 10d. a week.

Carbolic Acid Poisoning.

It is for those who make claims under the Act to prove that the death or injury was caused by accident. In a case at Manchester a cloth presser died of carbolic acid poisoning. It was proved that this fluid was used in the works, that the deceased was in the habit of drinking his tea out of mineral water bottles, and that a bottle containing traces of carbolic acid was lying near where the deceased lay. Upon this it was suggested that he must have been killed by drinking something which he thought was harmless. The judge held that no case had been made out.

Probable Future Incapacity.

The fact that a workman may at some future time suffer incapacity as the result of an injury is a matter which the court will take into account when asked to make a declaration that liability is at an end. In a case heard in Scotland a man had sustained a rupture while lifting a derailed hutch. He returned to work in three weeks at full wages. In a claim for compensation he only asked for three weeks' wages, but he also sought a declaration of liability. The sheriff decided, on the medical evidence, that as there might be incapacity at some future time in consequence of the injury, the workman was entitled to have his right to prefer a claim kept alive.

Medical Notes should be Taken.

At Merthyr, during the hearing of a claim, it was pointed out that the number of claims that went into court was very small compared with the number with which doctors had to deal. The judge remarked that he would look with some suspicion on the evidence of medical men who made no notes on such cases. It was almost impossible for them to remember one case out of a hundred, and it would only take a minute to make a note at the time.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE following degrees were conferred on May 27th:

M.D.—R. E. French, King's; J. C. L. Roberts, Cla.; F. W. M. Palmer, Jes.

M.B., B.C.—F. C. Trapnell, King's; J. W. B. Bean, H.-Selw.

M.B.—N. Maclaren, Trin.: F. Worthington, Joh.; G. H. Davy, Gonv. and Cai.

UNIVERSITY OF LONDON.

THE following candidates have been approved at the examinations indicated:

FINAL M.B., B.S.—*A. H. G. Burton (*c*). Guy's Hospital; *R. R. Elworthy (*a*), Westminster Hospital; *A. P. Fry (*d*), St. Bartholomew's Hospital; *M. D. D. Gilder (*d*), University College Hospital; *C. A. Joll, B.Sc. (*a, b, c, d*, University Medal), University College, Bristol; *D. A. Powell (*a*), Charing Cross Hospital; L. T. Baker, S. J. A. Beale, T. L. Bomford, R. H. Bott, K. Bremer, C. H. Broomhead, J. P. Buckley, Elsie M. Chubb, L. Croft, S. J. Darke, H. C. R. Darling, T. B. Davies, N. C. Davis, G. V. Deshmukh, Irene C. D. Eaton, A. E. Evans, T. Evans, C. H. S. Frankau, W. L. E. Fretz, Janet M. Fishe, H. S. Furness, C. J. Galbraith, H. Gooch, A. E. Gow, F. W. Hogarth, E. R. Holborrow, M. J. Holgate, A. W. Holthusen, H. F. L. Hugo, Matilda Hunt, J. L. Johnston, E. J. G. Jones, R. P. Jones, W. B. Jones, J. D. Judson, H. C. Lucey, G. R. Lynn, J. C. Lyth, H. E. H. Mitchell, M. H. E. R. Montesole, H. L. Morgan, W. P. H. Munden, W. H. Palmer, O. B. Parry, J. R. Perdrau, Ellen M. Pickard, Laura G. Powell, T. E. Pryce, W. P. Purdom, R. A. Rankine, H. A. H. Robson, J. E. Scudamore, Florence Stacey, Marion Stocks, St. J. A. M. Tolhurst, S. A. Tucker, J. O. D. Wade, H. G. Willis, C. A. Wood.

* Honours.

(*a*) Distinguished in Medicine. (*b*) Distinguished in Pathology. (*c*) Distinguished in Forensic Medicine and Hygiene. (*d*) Distinguished in Surgery.

FINAL M.B., B.S. *(Group I only).*—E. W. Archer, B.Sc., Ella M. Barker, A. Burrows, D. F. Dobson, T. S. Lukis, W. N. Pickles, G. R. Strong, B. R. Vickers, G. R. Ward, H. O. Williams.

FINAL M.B., B.S. *(Group II only).*—Anne Borrow, W. F. Bowen, C. G. Galpin, W. S. Hughes, J. E. L. Johnston, D. Loughlin, P. D. F. Magowan, J. H. Meers, D. G. S. R. Oxley, A. H. Penistan, N. G. H. Salmon, F. C. Searle, R. R. Smith, W. R. M. Turtle, A. L. Weakley, H. O. West, R. T. Williams.

UNIVERSITY OF DURHAM.

MEDICAL GRADUATES' ASSOCIATION.

Increase of Council.

AN extraordinary meeting of the association was held on May 28th at 11, Chandos Street, London, W., when Dr. R. A. Bolam's motion to increase the number of the Council from 12 to 18 was carried unanimously.

Annual Meeting.

At the annual meeting which followed, with Mr. Bruton Angus in the chair, it was decided that the auditors shall not be *ex officio* members of council.

The Treasurer's report was agreed to after some criticism on the way it was drawn up.

Dr. Braithwaite proposed that the method of voting for the election of officers should be entirely by ballot papers. It was agreed to refer the question to the Council for consideration, and the following officers were then elected: Wm. Rawes, M.D., F.R.C.S., President; T. Beattie, M.D., B.S., M.R.C.P., and M. G. Biggs, M.D., Vice-Presidents; Wm. Martin, M.A., M.D., B.S., and J. Inglis Parsons, M.D., M.R.C.P., Honorary Secretaries; eighteen members of Council, and three Auditors. Dr. Wm. Rawes, the President, and Drs. Wm. Martin and Allison were elected Representative Governors of the Court of the Durham College of Medicine. Dr. Edridge-Green's motion that "Four members of Council shall form a quorum" was carried by a majority. The report of the Subcommittee on the University Bill was approved. Sir T. Lauder Brunton and Dr. W. F. Mott were unanimously elected honorary members of the association.

Annual Dinner.

The members and their guests dined together the same evening at the Café Royal, Dr. William Rawes, the new President, in the chair. The "University of Durham" was proposed by Mr. Bruton Angus, and responded to by Sir George Hare Philipson. "The Association" was proposed by Dr. F. W. Mott, and responded to by Dr. Inglis Parsons. The toast of "The Guests" was proposed by Dr. F. M. Sandwith, and responded to by Sir James Barr in humorous terms. Some excellent music was provided by Mr. A. E. Godfrey, and a most enjoyable evening was passed.

QUEEN'S UNIVERSITY OF BELFAST.

STATUTES MADE BY THE COMMISSIONERS.

THE statutes made by the Commissioners appointed under the Irish Universities Act, 1908, for the government of the Queen's University of Belfast were issued on May 22nd.

There are four Faculties—Arts, Science, Law, and Medicine.

In Medicine there are six degrees; the usual ones of Bachelor of Medicine, of Surgery, and of Obstetrics (M.B., B.Ch., and B.A.O.) constitute the primary degrees of the Faculty, and require five years' registration as a student of medicine and attendance in Belfast on the prescribed course of studies for three academic years at least. The degrees of M.D., M.Ch., and M.A.O. will not be conferred until the expiration of at least

three more academic years, or in the case of graduates of the university in Science and Arts, of two years. These latter degrees will be conferred after examination or submission of a thesis.

No mention is apparently made of State medicine or public hygiene, and considering the enormous importance of these studies, the great number of Belfast students that seek a degree or qualification in them from Cambridge, Dublin, and elsewhere, and the general public interest, this must be regarded as a grave omission. Neither is there any mention of dentistry, nor in the arts and science faculties is there word of commerce. The Commission may, of course, have found that these last two departments are not a success elsewhere.

Only the main outline or skeleton appears in these statutes, but there is a certain feeling of disappointment that when a new university was thus being forged red hot, the opportunity should not have been seized of beating the yet malleable form more into the state anticipated by the leading thinkers of the day. The old division between physician and surgeon is fading; gynaecologists are both, and answer the demand of facts. The day when the young surgeon will be taught asepsis and how to perform intestinal anastomosis and other abdominal operations in the veterinary wards and theatre seems not far distant.

The whole classification of medical science and art is changing. Every medical ward in a hospital seems to require a surgeon, and every surgical one an immunizator. It is to be hoped that the statutes are not final, and that liberty of expansion in both faculties and degrees may be given to the Senate. As at present drawn they offer no recognition of the great changes that are fast taking place in what may be called the very constitution of medicine.

UNIVERSITY OF BIRMINGHAM.

The Ingleby Lectures.

SIR THOMAS BARLOW delivered the first of the Ingleby Lectures on May 27th in the Medical Lecture Theatre at the University to a very large audience. The subject of the lectures is Raynaud's disease and erythromelalgia, a summary and a review.

Public Health AND POOR LAW MEDICAL SERVICES.

URBAN DISTRICT COUNCILS AND THEIR MEDICAL OFFICERS.

THE answer returned under this head in the JOURNAL of May 22nd, p. 1275, was given under a misapprehension. It was thought that the inquiry referred to an appointment under the Poor Law, whereas it referred to an appointment of medical officer of health. As Dr. Butler-Hogan has pointed out, and as is, of course, well known, the General Order of the Local Government Board as to Medical Officers of Health and Inspectors of Nuisances (Urban Sanitary Authorities), dated March 23rd, 1891, contains the following, Article (3):

> An appointment shall not be made unless an advertisement specifying the district for which such appointment is to be made, together with the amount of salary proposed to be assigned, and the day fixed for such appointment, shall have appeared in some public newspaper or newspapers circulating in the district of the sanitary authority at least seven days before the day so fixed.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Surbiton Urban District.—Based upon an estimated population of 18,747 persons, the birth-rate in 1908 was 20.5 per 1,000, the death-rate from all causes 10.4, and from zymotic diseases 0.4 per 1,000. The infantile mortality-rate was equal to 70 per 1,000 births. The medical officer of health (Dr. Owen Coleman) points out that it is important to correct the crude death-rate by excluding non-residents who die in public institutions within the district and including residents who die outside the district. He appears to have been at some pains to make these corrections in his mortality tables, and complains of the difficulties which attend the gathering together of the necessary data. He expresses the opinion that there should be devised some machinery for forwarding the necessary information to the medical officer of health, and considers that the registrar is the person to whom the duty should be entrusted. We would point out that arrangements are already made by many medical officers of health under which the registrars supply the information desired by Dr. Coleman. It is true it is no part of the registrar's duty to make out the necessary returns, but as a rule he is willing to furnish them upon being paid by the sanitary authority the usual fee of 2d. for each entry and for each return. Since 1898 the Surbiton Council have had power under a by-law to require the owner of a dwelling-house to pave a yard or open space in connexion with the house if it is necessary for the prevention or remedying of insanitary conditions. It is satisfactory to find that this regulation is being enforced, and that already nearly 500 houses have been satisfactorily dealt with. Many observers have commented upon the relation between outbreaks of diphtheria and unpaved back yards. It would be of interest to know whether the activity of the district council in the manner indicated in any way accounts for the lessened incidence of the disease in the town of Surbiton.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated*.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not at his private house.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

DESIGN OF SURGERY.

T., who is about to put up a surgery to be attached to his house at a cost not exceeding £60, would be glad to know what other medical men have found most suitable.

DENTAL FEES.

CARIES asks what would be a fair fee for a qualified dentist in a small town to charge an ordinary patient (clergyman) for refilling an incisor with gold, the time occupied being one hour and a half?

*** The question is difficult to settle, so much depending upon the class of practice and the standing of the practitioner. For protracted and difficult operations a dentist in high-class practice in London would charge a fee of 2 guineas an hour, and in some provincial towns fees nearly as high are obtained, though as a rule probably about half this fee would be regarded as a good one. It is to be remembered that the longer the operation the more gold is used, and the cost of the gold may be considerable.

LETTERS, NOTES, ETC.

"A CHRISTIAN SCIENCE LECTURE."

WE have received a letter from Mr. Frederick Dixon, who writes from the office of the District Manager of the Christian Science Committees on Publication for Great Britain and Ireland relative to a paragraph under this heading, which appeared in the JOURNAL of May 29th. It is too long to publish in full, but we give what seem to us the essential parts. After saying that our correspondent speaks of the cough of a lady beside him who had not attained sufficient faith to overcome it, he goes on:

> Now, supposing this to be the case, what does it prove? Really nothing at all, since, for aught he knows, in order to overcome the cough, the lady might have had to overcome something very much more serious than a cold, and no Christian Scientist pretends to be able to overcome every phase of sickness instantaneously. But, as a matter of fact, how does he know that the lady was a Christian Scientist? The probabilities are distinctly against it. So many people had been turned away from Dr. Fluno's first lecture that Christian Scientists were largely conspicuous by their absence at the second, having left the hall mainly to the outside public.
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> Passing on now to his argument, why, if Christian Scientists are engaged in ignoring the evidences of sin, sorrow, and suffering around them, is there so much criticism of them for their efforts to heal the sick and preach the Gospel? The critics of Christian Science might at least endeavour to be consistent.
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> Because Christian Scientists deny the absolute reality of the existence and power of evil, it no more follows that they deny the relative sense of its reality to the human consciousness, than because the philosophical idealists of to-day deny the actual reality of matter they deny its existence as a phenomenon. For centuries the world has been face to face with the problem of evil, and for centuries the effort has

been persistently made to overcome it whilst admitting its reality. If, however, evil is real it is eternal; if it is eternal, it is hopeless to expect that it can be overcome. Jesus of Nazareth was the man who first showed the world the powerlessness and unreality of evil. Evil, he declared, was a lie, and the only semblance of power a lie can ever even seem to manifest is in the delusion produced by being deceived by it. As soon as the truth is known the temporary power of the lie is destroyed by reason of its very unreality. "Ye shall know the truth," Jesus said, "and the truth shall make you free." Not free, it is certain, from anything that is real, that is from anything God made, but equally certainly free from every lie by reason of its unreality as a lie.

It is scarcely fair to argue that because Christian Scientists have realized the futility of mankind's struggle through the centuries with evil regarded as a reality, and have turned in consequence back to the teaching of Jesus in the effort to meet it as an unreality, that they are ignoring the evidences the material senses given them of sorrow, and suffering, and sickness. "Sickness," Mrs. Eddy has written on p. 460 of *Science and Health*, "is neither imaginary nor unreal—that is, to the frightened, false sense of the patient," and has "therefore to be dealt with through a right apprehension of the truth of being." This right apprehension is surely the knowledge of the truth which makes men free, and the gaining of this knowledge would necessarily bring with it the power to demonstrate its truth—to do, in a word, the works which Jesus declared those who believed on Him would be able to do.

Christian Scientists and those who come to them for help are just as anxious to destroy the evidences of sin and suffering and sickness as those who are most bitterly opposed to the teaching of Christian Science, and most sceptical as to the value of its works. If, therefore, they have turned aside from the old method of fighting evil as a reality, and adopted a method new to-day, though not new altogether, of fighting it as an unreality, it is because they have had evidence which to them is overpowering of the superiority of the new method to the old. This can scarcely be described as burying their heads in the sand, but rather as facing the facts presented to them. Though, if your contributor will forgive me for saying so, the method of ignoring all evidence of Christian Science healing, when it is quite obvious it is going on, is a perilous approach to the reputed habit of the ostrich.

*** Mr. Dixon speaks as "prave 'orts" as Ancient Pistol, according to Fluellen, spoke "at the pridge." If words, as some of the old Greeks believed, could "materialize" into the things they denote, Christian Science would need no defence. There are only one or two points in Mr. Dixon's communication on which we need comment. His concluding statement that we ignore all evidence of Christian Science healing is, as he ought to know, quite inaccurate; we have always said that Christian Science, like many other methods which dispense with ordinary medical treatment, cures a certain number of cases of functional disorder. We take the liberty, however, of explaining these cures in a different way from that taught in *Science and Health*. Mr. Dixon's quotations from that illuminating work prove nothing but the incoherence and ignorance of its author, whoever he or she may have been, in respect not only of science, but of philosophy and logic. Looking into it for ourselves we find in one place the plain statement that "what is called disease does not exist"; in another we are told that "man is never sick," for the delectable reason that "Mind is not sick and matter cannot be." Again, there is a paragraph headed "All disease is a delusion." But of Mrs. Eddy's self-contradictions there is no end. For instance, immediately after the passage quoted by Mr. Dixon, she condemns most of her own disciples when she says: "If Christian Science is abused by mere smatterers in Science, it becomes a tedious mischief-maker. Instead of scientifically effecting a cure, it starts a petty cross fire over every cripple and invalid, baffling him with the superficial and cold assertion, 'Nothing ails you.'" Thus, out of the prophetess's own mouth is our charge, that Christian Scientists as a body have little sympathy with suffering, justified. Mr. Dixon complains that we criticize the Christian Scientists for their efforts to heal the sick. On this we have only to say that we should be glad that the sick should be healed in any way. What we criticize are what appear to us to be the mischievous consequences of their teaching. If their practice is better than their gospel, that is simply a further proof of the irrational character of the system. *Pace* Mr. Dixon, we agree with our contributor in holding that they do not "face the facts presented to them." That may be why it is so difficult to get properly authenticated facts from them.

Healing by Anger.

Dr. H. C. Foley writes: As the Journal has lately contained a good deal about the doings of the spiritual quack, I send you the account of how "Ulick of the Heads, the first Lord Clanricarde, was cured of paralysis." I copy the account from the *History and Antiquities of Kilmacduagh*, mentioni that the scene of the cure is quite near my residence, and that the traditional account is still held by the people. "The circumstances under which Ulick de Burgo received the name Ulick of the Heads are extraordinary. It is difficult to discredit them considering they are found in the pages of a scholar so learned, so conscientious, and so favourably known as the author of *Cambrensis Evernus*. Ulick was confined in his castle at Dunkellin for a considerable time by paralysis, which in those days (1542) of active warfare was sure to be attended with serious consequences. Accordingly, his possessions were seized on by neighbours, some of whom were his own kindred. After plundering his extensive territory they attacked his residence, intending to make him prisoner, and seizing all that remained. Bedridden as he was, when it was told that those bound to him by the closest ties of blood had hearts so merciless as to deprive him, a cripple, of the necessaries of life, his rage knew no bounds. He forgot his weakness, and cried aloud for 'A horse, a horse!' 'May not,' he added, 'the great God who took away the life of my limb restore it again and enable me to recover my cattle from those merciless thieves.'" His attendants, awed by his anger, yielded to his wishes, and placed him with difficulty on horseback. So feeble was he that he was unable to remain in the saddle without assistance. Nothing daunted, he persisted to sit upright, "till at length the bones emitted a sound loud enough to be heard by his attendants, and in the instant the sinews recovered their strength. His enemies were terror-stricken as he came on the scene; he not only retook his cattle, but brought back in triumph the heads of many of his enemies. Such was the remarkable occurrence that got him popularly known as Ulick of the Heads."

He possibly suffered only from chronic rheumatic arthritis. This disease is to-day not uncommon amongst the people near Dunkellin. The river that flows alongside when the castle moat was probably filled by it possibly made the residence a very damp one.

Quinine in Syphilis.

Dr. C. F. Marshall (London) writes: Quinine is strongly advocated by Dr. William Murray in the treatment of syphilis in his *Rough Notes on Remedies*. I have also mentioned it as a useful auxiliary indication in my book on *Syphilology*, and have frequently found it of benefit in cases of syphilitic cachexia. But I am not aware of any published cases which were treated exclusively by quinine, nor of any experiments on the action of quinine on the spirochaete.

Asthma.

Dr. H. G. H. Naylor (St. Kilda, Victoria, Australia) writes that he has found the following prescription very useful in asthma: R Ext. grindel. robust. liq. ℥ iij, vin. ipecac. ℥ jss, tr. nuc. vom. ℥ jss, ammon. carb. gr. 80, pot. iodid. gr. 60, tr. camph. co. ℥ ss, spt. chloroform. ℥ ijss, aqua ad ℥ vi, Mft. mist. ℥ ss in water three times a day after food. To be taken in water for two or three weeks at a time.

Lynn-Thomas and Skyrme Fund.

Twenty-third List of Subscriptions.

Mr. William Sheen, M.S., F.R.C.S., 2, St. Andrew's Crescent, Cardiff, Honorary Secretary of this Fund, desires to acknowledge the following subscriptions:

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Epsom and Lettsom.

A correspondent sends the following from the diary of a young lady whose family were patients of Dr. Lettsom. It recently appeared in *Notes and Queries*:

Next day it was enough to vex one;
There came a bill from Dr. Lettsom.
The bill was due that very day,
And Pa had not enough to pay,
For what was saved to pay poor Lettsom
Was spent the day before at Epsom.

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